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DESCRIPTION

THREE-DIMENSIONAL STRUCTURE OF LIPOCALIN-TYPE PROSTAGLANDIN D SYNTHASE AND UTILIZATION OF THE SAME

TECHNICAL FIELD

The present invention relates to the three dimensional structure of lipocalin-type prostaglandin D synthase (may be referred to as "L-PGDS" hereinafter). The present invention also relates to a method for selecting an inhibitor of L-PGDS using the three dimensional structure.

BACKGROUND ART

Prostaglandin (PG) D_2 is actively produced in various tissues and involved in many physiological phenomena. In central nervous system, PGD_2 accelerates non-rapid eye movement (NONREM) sleep and regulates nociceptive reaction. PGD_2 is also actively produced by mast cell, basophil, and T helper type-2 cell, and controls allergy reaction via DP and CRTH2 receptors. PGD_2 is converted to J series of prostaglandin such as $9\alpha,11\beta$- PGF_2 and PGJ_2, $\Delta^{12}-PGJ_2$, and 15-deoxy- $\Delta^{12,14}-PGJ_2$. These prostaglandins have quite different properties in biological system. 15-Deoxy- $\Delta^{12,14}-PGJ_2$ acts as a ligand of PPARγ, i.e., nuclear receptor involved in the differentiation of adipocyte, macrophage, and monocyte, preventing NF-κB and AP-1 dependent gene

expression.

Arachidonate cascade starts from PGH_2 synthase (cyclooxygenase, COX) and the enzyme produces PGH_2 from arachidonic acid provided from lipid bilayer of cell membrane. PGH_2 having 9,11-endoperoxide is unstable and spontaneously decomposes to be isomerized mainly to PGE_2 having 9-keto and 11-hydroxy group. PGD_2 having 9-hydroxy and 11-keto group is a redio isomer of PGE_2, and is specifically produced from PGH_2 by PGD syntase (PGDS, Prostaglandin H_2 D-isomerase [EC5.3.99.2]).

There are two types of PGDSs genetically different from each other. One is hemopoietic enzyme (hemopoietic PGD Synthase; H-PGDS) and the other is lipokalin-type enzyme (lipokalin-type PGD Synthase; L-PGDS)(Y. Urade and O. Hayaishi, Vitamins Hormones 58:89-120 (2000)). H-PGDS has molecular weight of 26 KDa and is a glutathione-dependent enzyme. It is mainly localized in antigen-presenting cell and mast cell. H-PGDS belongs to sigma class of glutathione S transferase (GST) as assessed by evolutional and crystallographic analysis. On the other hand, L-PGDS has molecular weight of 26 KDa, which is identical with that of H-PGDS, but is glutathione-independent enzyme and quite differs from H-PGDS in amino acid sequence, gene structure, evolutional origin and cellular localization.

L-PGDS is a member of a lipokalin gene family composed

of various secretory proteins and localized in choroid plexus, arachnoid membrane, and oligodendroglia of central nervous system (Y.Urade and O.Hayaishi, Biochem. Biophys. Acta, 1482:259-271(2000)). L-PGDS gene knock out mice lack allodynia induced by γ-aminobutyric acid and touch-evoked pain (Eguchi et al., Proc. Natl. Acad. Sci. USA, 96:726-730 (1998)), and have small NONREM sleep rebound after sleep deprivation (Eguchi et al., The 3rd International Conference on Oxygen and Life, Kyoto, Vol. 1233C:429-433(2002)). Megalocardia induced by loading high fat food is low in the gene knockout mice. Human L-PGDS overexpressing mice exhibit an excessive amount of NONREM sleep after the algetic stimulation, which occurs simultaneously with the increase of PGD_2 in brain (Pinzar et al., Proc. Natl. Acad. Sci. USA, 97:4903-4907(2000)). L-PGDS is considered to contribute to the control of algetic appearance and NONREM sleep by producing PGD_2 in central nervous system. In addition, allergic airway inflammation is exalted in human L-PGDS overexpressing mouse (Fujitani et al., J. Immunol, 168:443-449(2002)). The exaltation of L-PGDS gene expression is observed in the brain of patients with neurodegenerative disease such as multiple sclerosis (Chabas et al., Science, 294:1731-1735(2001), Thaisacks disease, and Sandhoff disease (Myerowitz et al., Hum. Mol. Genet, 11:1343-1350 (2002))).

The expression of L-PGDS is observed in arteriosclerosis plaque of coronary artery in stable angina pectoris disease (Eguchi et al., Proc. Natl. Acad. Sci. USA, 94:14689-14694(1997)).

Therefore, If an inhibitor of L-PGDS can be found, the inhibitor can be expected to be used as new types of medicines such as allodynia, sleep controlling agent, antiallergic agent, anti-neurodegenerative agent, anti-arteriosclecrosis agent and anti-megalocardia agent.

DISCLOSURE OF INVENTION

The present invention has an object to clarify three-dimensional structure of L-PGDS and to provide a method for designing and seeking an inhibitor of L-PGDS using the three-dimensional structure.

The present invention provides a crystal of lipocalin-type prostaglandin D synthase derived from mouse. Lipocalin-type prostaglandin D synthase derived from mouse has an amino acid sequence of SEQ ID NO:1. Since amino acids from sites 1 to 24 are a signal sequence, it is preferred that the protein excluding this portion is used. In addition, mouse L-PGDS contains three cystein residues at sites 65, 89, and 186. Accordingly, it is preferred for resolving crystal structure that, when L-PGDS is produced by recombinant method, cystein at site 65 is replaced by

alanine to avoid the formation of disulfide bond other than native disulfide bond between cystein at sites 89 and 186. L-PGDS in which such substitution is made and the signal peptide is excluded may refer to as "native-type $Cys^{65}Ala$ L-PGDS" or merely as "native-type L-PGDS" hereinafter.

This native-type L-PGDS crystal has a space group $P2_12_12_1$ of orthorhombic system and the size of unit cell is $a=46.2\pm0.5$Å, $b=66.8\pm0.7$Å, and $c=105.3\pm1.0$Å. There are two molecules of L-PGDS in crystallographic asymmetric unit.

Another crystal is produced from L-PGDS in which methionine at sites 64, 94, and 145 are replaced by seleno methionine in addition to exclusion of signal peptide and $Cys^{65}Ala$ substitution (may refer to as "Se-Met-type L-PGDS" hereinafter).

This Se-Met-type L-PGDS crystal has a space group $C222_1$ of orthorhombic system and the size of unit cell is $a=45.7\pm0.5$Å, $b=66.8\pm0.7$Å, and $c=104.5\pm1.0$Å. There is one molecule of L-PGDS in crystallographic asymmetric unit.

The present invention is related to lipocalin-type prostaglandin D synthase having the three-dimensional structure represented by the structure coordinates of Table 2. The structure coordinates were obtained by X-ray structure analysis of "native-type L-PGDS" as described above.

The present invention is related to lipocalin-type

prostaglandin D synthase having the three-dimensional structure represented by the structure coordinates of Table 3. The structure coordinates were obtained by X-ray structure analysis of "Se-Met-type L-PGDS" as described above.

Crystal structures of native-type $Cys^{65}Ala$ L-PGDS and Se-Met-type L-PGDS are presumed to be identical with wild type L-PGDS by the following reasons:

(i) The catalytic mechanism of PGDS reaction can be reasonably explained by the crystal structure of native-type $Cys^{65}Ala$ L-PGDS;

(ii) As apparent from the interaction with PGH_2, the side chain of cystein residue at site 65 is exposed to the surface of inner cavity of the protein, and is not involved in the formation of disulfide bond which is an element of the protein skeleton in wild type L-PGDS having PGDS activity;

(iii) The fact that even $Cys^{89,189}Ala$ variant not having disulfide bond of protein skeleton has enzyme activity which is a phenotype of the structure suggests that the barrel structure of L-PGDS itself is strong, and that the structure of native-type $Cys^{65}Ala$ L-PGDS is not significantly changed by the amino acid substitution;

(iv) The three dimensional structure of Se-Met-type L-PGDS is very similar with that of native-type $Cys^{65}Ala$ L-

PGDS.

Table 2 and 3 represent the three-dimensional structure coordinates according to the format of Protein Data Bank (http://rcsb. org/pdb/, USA). "ATOM" at the first column indicates that it is atom constituting protein; the second column indicates the atom number sequentially numbered from the first amino acid constituting the protein; the third column indicates the atom type constituting the protein. For example, Cα carbon atom is represented by CA; amido nitrogen atom is represented by N; carbonyl carbon atom is represented by C; and carbonyl oxygen atom is represented by O,; the fourth column indicates the amino acid residue by three letter notation; the fifth column indicates the class of molecule; the sixth column indicates the amino acid number; the seventh, eighth, and ninth columns indicate coordinates of the atom (in Å for X-axis, Y-axis, and Z-axis directions in the order); the tenth column indicates the occupancy of the atom (in the present invention 1.00 for all atoms); and the eleventh column indicates the temperature factor of the atom. The twelfth column indicates the class of atom in Table 2 and the class of molecule in Table 3.

When these coordinates are used, an inhibitor of L-PGDS can be selected. That is, the present invention is related to the use of the coordinates described in Table 2

or 3 for the selection of lipocalin-type prostaglandin D synthase inhibitor.

The present invention relates to a method for selecting an inhibitor of lipocalin-type prostaglandin D synthase, which comprising:

(a) providing the three dimensional coordinates of Table 2 or 3 representing the three dimensional structure of lipocalin-type prostaglandin D synthase:

(b) providing three dimensional structures of candidate compounds; and

(c) selecting the candidate compound which fits to the substrate-binding site of lipocalin-type prostaglandin D synthase.

The term "substrate-binding site of L-PGDS is an interior space of hollow structure determined by amino acids residues at sites 39, 43-48, 54, 65-67, 77-83, 90-96, 103-107, 116-120, 129-133, 143-149 and 180 in amino acid sequence of L-PGDS of SEQ ID NO:1. These regions include 1 to 5 amino acids before and after the amino acid residues.

The term "fit" means that the whole or the part of candidate compound can stably bind to the whole or the part of the above substrate-binding site in figure and energy. As the result, the binding of the substratre to L-PGDS is inhibited.

In a preferred embodiment, the inhibitor as selected

above is contacted with L-PGDS in the presence of prostaglandin H_2 to measure L-PGDS enzyme activity to confirm the inhibiting effect of the inhibitor selected.

According to the method of the present invention, a novel inhibitor of L-PGDS was found. That is, the present invention relates to an inhibitor of lipocalin-type prostaglandin D synthase, 4-dibenzo(a,d)cyclohepten-5-ylidene-1-(4-(2H-tetrazole-5-yl)butyl)piperidine (referred to as "AT-56" hereinafter).

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows the whole structure of L-PGDS.

(A) is ribbon diagram of $P2_12_12_1$ crystal of native-type L-PGDS which are viewed from right angle to barrel. The upper is open terminus of the barrel and the lower is closed terminus. Strands and helixes are represented as A-H and 1-3, respectively.

(B) is a drawing showing the electrostatic feature of L-PGDS viewed from open (referred to as "o") and closed (referred to as "c") terminus. Black is electrostaticly positive and white, negative.

(C) is a drawing showing conserved surface of L-PGDS. The degree of amino acid sequence conservation of known L-PGDS is depicted on the L-PGDS molecule surface. Dark shows higher conservation.

Figure 2 is a sequence alignment in consideration of mouse L-PGDS and other lipocalin structure. SCR region in which high amino acid conservation is observed in all sequences constitute the closed terminus of the barrel structure, and presumed to be important for L-PGDS activity. L-PGDS has a signal sequence consisting of about 20 residues at N-terminus region.

PGDS: mouse L-PGDS, HNGAL: human neutrophils gelatinase related lipocalin, BLG: human β -lactoglobulin, RBP: human retinol binding protein, ERABP: rat epididymis retinoic acid binding protein, MUP: mouse main urine protein, OBP: ox perfume substance binding protein, BBP: butterfly biline binding protein.

Figure 3 shows characteristic features of L-PGDS structure.

(A) is a stereo diagram of the whole skeleton structure of L-PGDS of Se-Met type $C222_1$ crystal having noteworthy feature. Eight residues in hydrophilic belt inside envelop are shown. The structure in which one S-S bridge of Cys89/186 and two aromatic residues Trp^{54} and His^{111} are contacted is found in the upper end of the barrel structure. Gln^{51} at upper left and Gln^{78} at lower light are two presumed glycosylated sites.

(B) is a closed-up of hydrophilic belt. There are eight polar residues, $Cys^{65}Ala$, Ser^{45}, Thr^{67}, Ser^{81}, Tyr^{149},

Thr^{147}, Ser^{133}, and His^{116}, which form presumed binding-site of the substrate-binding site of PGH_2.

Figure 4(A) shows a stereo diagram showing closed and open manner of envelop entrance. His^{111} of EF loop can closes (H111c) or open (H111o) the entry of the substrate-binding site by the aromatic interaction of Trp54 of Ω loop.

(B) is a stereo diagram of the bottom of substrate-binding site around Phe^{39} and Trp^{43}. Two rotational isomer are shown in $P2_12_12_1$ (F39o) and $C222_1$ (F39o) crystal structure.

Figure 5 is a stereo diagram showing suggested PGH_2 bonding manner of L-PGDS. The PGDS binding and the presumed residue thereof involved in catalyst are shown with PGH_2 bonded.

Figure 6 is a schematic view of reaction mechanism. Hydrogen bond net work including Cys^{65} promotes the formation of thiolate anion at physiological pH by sifting thiol and thiolate. After the binding of PGH_2 (1), thiolate of Cys^{65} attacks as base endoepoxyoxygen attaching to C11 atom (2) to form S-O adduct as an intermediate(3). The unstable S-O bond is cleaved by synergistic rearrangement (3) to form C11 carbonyl of the product PGD_2(4).

Figure 7 is a graph showing binding and dissociating

rate in the binding of PGD_2, PGE_2 and $PGF_{2\alpha}$ to L-PGDS. The binding of PGD_2, PGE_2 and $PGF_{2\alpha}$ to L-PGDS were measured by surface plasmon resonance method. The concentration of PGD_2 ranges 0.0 to 7.5 μM and the concentration of PGE_2 and $PGF_{2\alpha}$ are 10 μM.

Figure 8 is a graph showing the result of measurement of PGDS activity of various protein mutants at pH 8.0, 9.0 and 10.0.

Figure 9 is a ribbon diagram showing L-PGDS to which AT-56 binds.

Figure 10 is a graph showing the inhibition effect of AT-56 on L-PGDS enzyme activity.

Figure 11 is a graph showing the inhibition effect of AT-56 on PGD_2 production.

Best Mode for Carrying Out the Invention

(I)Three Dimensional Structure, Substrate-Binding Site and Reaction Mechanism of L-PGDS

(i) Whole Three Dimensional Structure of L-PGDS

The crystal structure of L-PGDS shows typical folding structure of lipocaline, and comprises anti-parallel β barrel of eight strands, three α helix regions and c-terminus strand (Figure 1A). The barrel has a size of 40x30x35 Å and the strands are cross-linked via conserved disulfide linkage of $Cys^{89/186}$ at the outside of cup-formed

portion. The outer surface of the protein comprises charged or polar amino acid residues. The molecular surface of the presumed entry for ligand is electrostaticlly positive and can draw the enzyme substrate PGH_2 and the product PGD which are negatively charged.

The amino acid sequence of L-PGDS is subjected to alinnment with amino acid sequence of various known lipocalins in consideration of the three dimensional structure (Figure 2). L-PGDS is classified as a karnel type lipocalin and has three structurally conserved region (SCR) 1, 2, and 3. These SCRs constitute closed end of the barrel of L-PGDS molecule and consists of N-terminus helix 1, strand A, strands F and G, and strand H. The helix 1 is positioned near the closed end of the barrel and is considered to stabilize the barrel structure by hydrophobic interaction. SCR is conserved even on the L-PGDS molecule surface (Figure 1C). EF loop and Ω loop corresponding to loop AB containing short helix 2 construct the closed cover of the barrel. Two glycosylated sites are positioned at Asn^{51} of large cover of Ω loop of L-PGDS and at Asn^{78} of strand C (Arrow in Figure 3A)

In the inside of L-PGDS controlled by hydrophobic side chain there is a remarkable hydrophilic belt consisting of eight polar residues of $Cys^{65}Ala$, Ser^{81}, Thr^{67}, Ser^{45}, Tyr^{149} Thr^{147}, Ser^{133}, and His^{116} from the right to the left in

Figure 5 and Figure 3B. The residues in the polar belt are involved not only in the binding of the substrate PGH_2 but also in the release of the product PGD_2. As shown by site-directed mutagenesis hereinafter, the release of the product PGD_2 is promoted by decreasing the cost for hydration and dehydration of the polar hydroxyl group of ω chain.

The presumed catalyst residue Cys^{65}, which is replaced by alanine in the crystal structure, is positioned at the N-terminus of β strand B and faced to the inside of the barrel of open edge of the protein (Figures 5 and 3B). The $Cys^{65}Ala$ residue is surrounded by the hydroxyl side chain cluster of Ser^{45}, Thr^{67}, and Ser^{81} within a distance of hydrogen bonding (Figures 3B). These residues form a hydrogen bond net work in the hydrophobic barrel together with Tyr^{149}, Thr^{147} and Ser^{133}.

(ii)Open-Close Conformation Isomer of L-PGDS

We determined two types of crystal structure having open and closed types at the entry of the substrate-binding site of L-PGDS. In Se-Met type L-PGDS crystal structure having space group $C222_1$, the active site is separated from the outside of the protein by a closed aromatic bridge between Trp^{54} of Ω loop and His^{111} of EF loop. In native-type L-PGDS crystal having different space group $P2_12_12_1$, the entry of the substrate-binding site is opened due to

different conformation of EF loop having His^{111} (Figure 4A). Trp^{54} and ^{109}SPHXGS residues of mobile EF loop are conserved in all identified amino acid sequence of L-PGDS including Xenopus homolog. One of the two molecules of nature type-L-PGDS contained by asymmetric unit of $P2_12_12_1$ crystal is low in electron density corresponding to Pro^{110}, His^{111}. Atom model is not applied to electro density for the two residues. It is considered that open-closed conformation isomer of flexible loop play an important role in the binding of substrate and non-substrate ligand to the substrate-binding site of L-PGDS.

(iii) Lipophilic Retinoic Acid Binding of L-PGDS as Lipocalin

L-PGDS was crystallized in the presence of retinoic acid as an essential crystallizing adjunct. L-PGDS binds to retinoic acid and retinal like many other lipocalins. Phe^{39} at the bottom of the pocket shows different rotational isomer in different crystal forms $P2_12_12_1$ and $C222_1$ (Figure 4B). Native type $P2_12_12_1$ crystal has bulky and wide cavity with high residual electron density near Phe^{39}. On the other hand, in Se-Met $C222_1$ crystal, corresponding residual electron density is continuous with that of Phe^{39} side chain and a narrower cavity is formed than that of the native type. It is concluded that the residual electron density in the neighborhood of indole

ring of Trp^{43} near Phe^{39} side chain in the native crystal is contributed to boundd retinoic acid molecule. These retinoids non-competitively inhibit L-PGDS activity. The binding of retinoids requires the re-organization of hydrophobic residue cluster of L-PGDS including Trp43 which interact with retinoids

(iv) Binding Mode of Substrate PGH_2

When minimum energy PGH_2 model is used, the substrate PGH_2 is positioned along hydrophilic belt of substrate-binding site of L-PGDS (Figure 5). In the suggested binding model, ω chain having 15-hydroxyl group of PGH_2 is inserted into the substrate-binding site, and oxygen atom bound to C11 in endoperoxide bound to cyclopentane ring reaches thiol group of Cys^{65} residue of the catalyst. The negative charge of carboxyl group at α chain terminus of PGH_2 is counterbalanced by the positive charge of Lys^{92} and Arg^{85} side chains, which form electrostaticlly positive cover of cup-form portion in a complex model (Figure 5). The hydrophilic belt of the substrate-binding site can promote insertion or release of ω chain of PGH_2 or PGD_2 having polar hydroxyl group since hydrated water of 15 hydroxyl of ω chain in solvent can be exchanged to these side chain without enthalpical dehydration cost. The polar surface of endoperoxide of PGH_2 is faced on hydroxyl cluster including Cys^{65} and Ser^{45}, Thr^{67} and Ser^{81}. The

hydrophobic portion of cyclopentane structure is enwrapped by hydrophobic chain including Phe^{83} and Met^{94}. The closed conformation of the flexible EF loop existing at the entry of the substrate-binding site provides catalytic space for PGDS reaction and can help to specifically produce PGD_2 by separating catalytic portion from base in solvent. Furthermore, there is space enough to accommodate bulky product PGD_2 having 9-hydroxyl-11-keto-cyclopentan formed in docking study.

(v) Reaction Mechanism of L-PGDS

Reaction mechanism of PGDS activity catalyzed by L-PGDS was presumed and shown in Figure 6. The catalytic residue of L-PGDS is Cys^{65} and the thiol group thereof is stabilized as thiolate ion as reaction species by synergistic hydrogen bond network with Ser^{45}, Thr^{67} and Ser^{81}. Binding mode of PGH_2 to L-PGDS in the suggested reaction mechanism provides appropriate configuration to direct endoperoxide oxygen of C11 of PGH_2 to sulfur atom of Cys^{65} in PGDS reaction. In the model, the hydrogen-bond network of Cys^{65} with Ser^{45}, Thr^{67} and Ser^{81} decreases pKa of Cys^{65} thiol group and stabilize thiolate anion as reaction species of PGDS catalyst at physiological pH. Suggested reaction mechanism is as follows (Figures 6):

Thiolate anion of Cys^{65} attacks endoperoxide oxygen of C11 of PGH_2 as a base (Step 2 in Figure 6) to form S-O

adduct presumed as an intermediate (Step 3). Hydroxyl group of Ser^{45} attacks unstable S-O bond to rearrange proton of C11 hydrogen atom to convert into carbonyl group in a synergistic manner (Steps 3 and 4). After the product PGD_2 is released, thiol proton of Cys^{65} is dissociated to regenerate thiolate anion as reaction species

(vi) Mutant Analysis of L-PGDS

In order to confirm the suggested substrate-binding and reaction mechanism, site-directed mutagenesis of 9 amino acid residue in the interior of the substrate-binding pocket was performed. Since the preparation of recombinant protein having the same PGDS activity as purified wild-type enzyme is easy, $Cys^{89,186}Ala$ construct was used for this purpose. Various mutants were expressed, purified to homogeneity and L-PGDS activities were compared at pH 8, 9 and 10 (Figure 8).

It was confirmed that Cys^{65} is the catalyst residue of L-PGDS since $Cys^{65}Ala$ mutant completely loses enzyme activity. When Ser^{45}, Thr^{67} and Ser^{81} of hydroxyl cluster surrounding Cys^{65} in the catalyst pocket are replaced with Ala, the PGDS activity decreases to 30 to 15 % without significant reduction of Km for PGH_2 (Figure 8 and Table 1). Accordingly, kcat/Km was $0.36\,\mu M^{-1}min^{-1}$ for $Ser^{45}Ala$ and $0.50\,\mu M^{-1}min^{-1}$ for $Ser^{81}Ala$, and thus decreased to one fifth in relative to wild type enzyme. L-PGDS activity is decreased

to less than 10 % of wild type enzyme in $Ser^{45,81}Ala$ double mutant, and almost disappear in Ser^{45},Thr^{67} and Ser^{81} triple mutant. These results correspond to the idea that thiolate anion of Cys^{65} is stabilized by the hydroxyl cluster of Ser^{45}, Thr^{67} and Ser^{81} to act as a reaction species in the enzyme reaction.

Notably, three mutants $Phe^{83}Ile$, $Arg^{85}Glu$ and $Lys^{92}Glu$ have kcat/Km of 4.47, 4.86 and 5.71 $\mu M^{-1}min^{-1}$, respectively. These values were twice to that of wild type enzyme having kcat/Km of 2.38 $\mu M^{-1}min^{-1}$ (Figure 8 and Table 1). On the other hand, Km values of these mutants (11 to 15 μM at pH 8) are comparable to wild type enzyme (13 μM) except for $Arg^{85}Glu$ mutant (7 μM). These results suggest that the rate-determining step of L-PGDS is not the catalytic process of isomerization, but the product release process. Positive charges of Arg^{85} and Lys^{92} giving positive electrostatic features on ligand entry surface of L-PGDS generate high affinity to negative charge of α chain of PGH_2 and PGD_2 (Figures 1B) and can assist to maintain the product on substrate-binding site. Aromatic ring of Phe^{85} can assist to accommodare the product in a broad cavity around catalytic Cys^{65} residue as PGH_2 binding model shown in figure 5. The activity of $Thr^{147}Ala$ and $Tyr^{149}Phe$ mutants decreases to one half in relative to the wild type enzyme. Accordingly, these polar side chains of Thr^{147} and Tyr^{149} are

important for turnover of the catalyst.

Table 1

Kinetic Parameters of L-PGDS Mutants for PGDS Activity

	Km(μM)	Kcat/Km($\mu M^{-1}Min^{-1}$)
Wild Type(C65)	13	2.38
S45A	11	0.36
S81A	12	0.50
F83I	15	4.47
R85E	7	4.86
K92E	14	5.71
T147A	19	0.95
Y149F	1	0.82

*kinetic parameter were measured at pH=8.0

(vii) High Affinity Binding of Product PGD_2 to L-PGDS

L-PGDS binds the product PGD_2 in high affinity (Kd=89.4 $\pm$ 3.4nM, $k_{on}=1.24x10^3 \pm 37M^{-1}sec^{-1}$, $k_{off}=1.11x10^4 \pm 7.0x10^{-6}sec^{-1}$), Neither PGE_2 nor $PGF_{2\alpha}$ is bound to L-PGDS as measured by surface plasmon resonance analysis (Figures 7) (Jonson et al., Biotechniques 1991 Nov 11 (5):620-627; Beuckmann et al., Biochemistry, 38:8006-8013 (1996)). L-PGDS can act as a PGD_2 transporter protein. Binding and dissociating test show that the bound PGD_2 is slowly released from hydrophobic pocket of L-PGDS. On the other hand, H-PGDS does not show high affinity to PGD_2. These

results suggest that L-PGDS has two functions. That is, L-PGDS act as a PGD_2 synthesis enzyme coupled with COX in cells and thereafter as an extracellular transporter of PGD_2.

(II) Selection of L-PGDS Inhibitor Using Structure Coordinate

It is possible to select compounds which can inhibit L-PGDS using the three dimensional structure coordinates as shown in Table 2 or 3.

The present invention relates to a method for selecting an inhibitor of lipocalin-type prostaglandin D synthase, which comprising

(a) providing the three dimensional structure coordinates in Table 2 or 3 representing the three dimensional structure of lipocalin-type prostaglandin D synthase:

(b) providing three dimensional structures of a candidate compounds; and

(c) selecting a candidate compound which fits to the substrate-binding site of lipocalin-type prostaglandin D synthase.

As described above, the amino acid residues constituting the substrate-binding site of L-PGDS are those at sites 39, 43-48, 54, 65-67, 77-83, 90-96, 103-107, 116-

120, 129-133, 143-149 and 180 in L-PGDS amino acid sequence of SEQ ID NO:1.

Based on the three-dimensional structure information, each candidate compound is evaluated for binding fitness to the substrate-binding site of L-PGDS. In the evaluation, candidate compound and the structure exhibiting stable binding manner in energy and steric structure to the active site of L-PGDS are ranked among candidate compounds having various structures. This evaluation can be automatically performed by many kinds of virtual screening program. Among the ranked candidate compounds, a lead compound is selected which readily bind to the substrate-binding site of L-PGDS numerically and visually. The compound thus obtained is used as basic skeleton, and the derivative capable of binding more stably to the substrate binding site of L-PGDS can be designed and synthesized to develop new inhibitors of the enzyme.

It is preferred to design inhibitor using computer. For example, OCTANE, a workstation supplied by Silicon Graphics, Inc., is suitable as a computer used for designing inhibitors. However, the computer is not limited to this one, and any computer may be used so long as it is tuned to run an appropriate program. Likewise, there is no particular limitation on the computer storage medium. For example, Insight II, a computer program commercially

available from Accelrys, Inc. may be used as a program for designing. In particular, a program Ludi or DOCK, a module of Insight II specially prepared for such purposes, may be used alone or in combination to facilitate identification, searching, evaluation, or designing.

In designing of inhibitor, there are conceptually two steps. The first step is to find a compound which serves as a starting point for drug design, known for those skilled in the art as a lead compound. The next step is optimization of the lead compound wherein compounds having better properties as medicines, for example, having better activity, having better pharmacokinetics, or having less toxicities and side effects are sought starting from the lead compound.

The step in which a lead compound is found using the structure coordinates of the L-PGDS complex provided by the present invention is achieved, for example, using a database in a computer into which structures of plural compounds have been entered, by a method in which interactions between three-dimensional structures of a compound in the database and L-PGDS are sorted out in a visual manner one after another, or by a method in which amplitudes of binding energy are calculated one after another using a computer and compounds which stably bind to PGDS are found from the database. Although it is preferred

that the database of compound's structures contains determined three-dimensional structure coordinates entered therein, for low molecular weight compounds, it does not have to be a database of three-dimensional structure coordinates, because such low molecular weight compounds may change their conformations relatively freely, and also because three-dimensional structure coordinates for each conformation can be derived by calculations in a relatively short time. In the latter cases, information for chemical covalent bonds of low molecular weight compounds are entered into the database.

Specifically, in the visual method, L-PGDS is firstly displayed on a computer screen according to the structure coordinates of the present invention. In this step, although a three-dimensional representation may be made on the computer screen using, for example, Crystal Eye as described above, visual examinations can also be achieved without using such a three-dimensional representation.

Chemical interactions to be considered include electrostatic interaction, hydrophobic interaction, hydrogen bonding, van der Waals interaction, and the like. Thus, the structure should be comprehensively examined whether it is favorable for interactions, for example, so that functional groups which tend to bear negative charge such as carboxyl group, nitro group, and halogens interact

with amino acid residues in L-PGDS having positive charge such as lysine, arginine, and histidine, so that functional groups which tend to bear positive charge such as amino, imino, and guanidyl groups interact with amino acid residues in PGDS having negative charge such as glutamic acid and aspartic acid, so that hydrophobic functional groups such as aliphatic groups and aromatic groups interact with hydrophobic amino acid residues such as alanine, leucine, isoleucine, valine, proline, phenylalanine, tryptophan and methionine, so that functional groups involved in hydrogen bonding such as hydroxyl and amide groups can form hydrogen bonds with backbone or side chain portions of L-PGDS, so that binding between the compound and L-PGDS causes no steric hindrance, and so that empty spaces are filled to minimize such empty spaces and maximize van der Waals interaction. Thus, electrostatic interaction, hydrophobic interaction, van der Waals interaction, hydrogen bonding, and other factors are visually and comprehensively considered to finally determine whether or not the compound is suitable as a lead compound.

In the method by energy evaluation with a computer, the energy of binding between a compound and L-PGDS is determined by molecular force field calculations. Such calculations are applied to each compound in the database

to find a certain compound which may serve as a lead compound capable of stable binding. As a molecular force field used in the calculations, for example, CVFF, AMBER force field optimized for proteins, which is contained in DISCOVER module of Insight II program may be used. In addition, some computer programs like Ludi in Insight II can automatically output candidates for lead compound when three-dimensional structure coordinates of interacting amino acid residues in a protein molecule are given, and such programs may also be applied to the method of present invention.

Furthermore, the visual examinations and the examination considering energy are not strictly sorted out from each other, and both techniques may be used in combination as appropriate.

The next step, in which optimization of the lead compound is conducted using the structure coordinates of the PGDS complex is used for the purpose of, where a lead compound which binds to L-PGDS has already been found by the above method or separately found in an experimental manner, optimizing the lead compound to obtain a better compound, for example, a compound having higher biological activities as an inhibitor or a compound having a structure favorable for oral administration as a medicine. It becomes possible only after a precise picture of chemical

bonding between the lead compound and L-PGDS has been elucidated to directly find a site which is not optimal for interactions between the lead compound and L-PGDS and to design a new compound having an optimal functional group at that site, thereby enabling to design a more optimized compound.

For visual examinations with a computer, a model of the complex between the lead compound and L-PGDS is firstly displayed on a computer screen by entering the three-dimensional structure coordinates of the lead compound and the structure coordinates of L-PGDS provided by the present invention into a computer on which a computer program expressing three-dimensional coordinates of molecules runs or into a storage medium of the computer. In this step, although a three-dimensional representation may be made on the computer screen using, for example, Crystal Eye as described above, visual examinations can also be achieved without using such a three-dimensional representation. It is a logical designing of a compound to modify the lead compound so as to yield a compound more favorably interacting with L-PGDS or a compound having better pharmacokinetics while retaining the interactions.

Chemical interactions to be considered are the same as those in the step to find a lead compound, and a new compound having better properties as an inhibitor is

finally designed starting from the lead compound.

In the method by energy evaluation with a computer, the energy of binding between a new compound designed from the lead compound and L-PGDS is determined by molecular force field calculations to judge the validity of the design. In addition, it is also possible to use a method in which other molecules such as solvent molecules are additionally included in the model and the free energy is determined using molecular dynamics to derive a compound capable of stable binding. As a molecular force field used in the calculations, for example, CVFF, AMBER force field optimized for proteins, which is contained in DISCOVER module of Insight II program may be used.

Furthermore, the visual examinations and the method by energy evaluations may be used in combination as appropriate. In addition to the visual examination and energy examination with computer, complex crystal of the lead compound or compound designed from the lead compound and L-PGDS is analyzed with X-ray crystal analysis. This gives important information for improved evaluation for the fitness between L-PGDA substrate-binding site and the compound. Complex crystal is prepared by crystallizing L-PGDS in the solution in which the compound and L-PGDS coexist. Alternatively, the crystal of L-PGDS produced in the solution not containing the compound is immersed in the

solution which contains the compound and in which L-PGDS crystal can stably exist. X-ray crystal analysis of the complex crystal can be performed by the method used in the determination of the structure coordinates of native-type $Cys^{65}Ala$ L-PGDS. In this case, the analysis can be made using L-PGDS struture coordinates described in Table 2 or 3. If necessary, the method in the determination of the structure coordinates of Se-Met-type L-PGDS may be used.

After a candidate compound of L-PGDS inhibitor is selected, it is preferably contacted with the enzyme in the presence of the substrate (prostaglandin H_2) to confirm an ability of the compound to inhibit the enzyme (see, for example, Shimizu, t., Yamamoto, S., and Hayaishi O. (1979), Purification and Properties of prostaglandin D synthase from rat brain, J. Biol. Chem., 254:5222-5228). The enzyme activity can be measured, for example, as follows:

The substrate [1-^{14}C]prostaglandin (PG)H_2 is synthesized by reacting [1-^{14}C]arachidonic acid with cyclooxygenase. Since PGH_2 is easily decomposed in an aqueous solution (half life: about 5 minutes), it is evaporated to dryness and stored at low temperature(-80℃). The enzyme reaction is performed by injecting 1 μL of PGH_2 solution(acetone or non-volatile diethylenediglycohol solution) with a microsyringe to 49 μL of 0.1 M phosphate buffer (pH8.0) containing 1 mM dithiothreitol (DTT) and the

enzyme. After the reaction at 25 ℃ for 30 to 60 seconds, the reaction is quenched by the addition of 300 μL of ice-cold mixed solution of ether/methanol/0.1 M citric acid (30:4:1 v/v/v) followed by extraction the substrate and reaction product under acidic condition into ether layer. Subsequently, anhydrous sodium sulfate was added to dehydrate it. An aliquot of organic layer (about 50μL) is coated on silica gel thin layer in a low temperature room (4℃) and subjected to silica gel thin layer chromatography in a freezer (-20 ℃) (developing solvent: ether/methanol/acetic acid (90:2:1 v/v/v). After the development, radioactivity of PGD_2 fraction and fraction other than it are measured to calculate an enzyme activity based on the conversion ratio to PGD_2.

After the enzymatic reaction is performed using commercially available non-labeled PGH_2, PGH_2 is decomposed to 12(S)-hydroxy-8,10-trans-5-cis-heptadecatrienoic acid with $FeCl_2$ treatment followed by reverse phase HPLC using 11- β — PGE_2 as internal standard to quantify PGD_2. Commercially available ELISA may be used to quantify PGD_2.

As described above, the inhibitor can used as pain killer, sleep controlling agent, anti-arteriosclerosis agent, anti-megalocardia agent, antiallergic agent, anti-neurodegenrative agent, and the like

Examples

Example 1

Production of L-PGDS

Production of native-type L-PGDS

L-PGDS gene (EMBL/GenBank/DDBJ™ Accession No.D83329) from Glu24 to C terminus was obtained from a mouse brain library by PCR amplification and inserted into expression vector pGEX-2T (Amasham Pharmacia Biotech inc.). Escherichia coli DH5 α (Toyobo) was then transformed with the expression vector. pGEX-2T is an expression vector in which a gene of interest is inserted downstream of glutathione (GSH) transferase (GST) gene to express the protein of interest as GST fused protein. In order to prepare Cys65Ala, a pair of synthesized oligomer containing mismatch codon was prepared to replace Cys65 by Ala using the resulting expression vector as a matrix:

5'-GCTGTATTGTATATGgcaAAGACAGTGGTA-3'

5'-TACCACTGTCTTTgcCATATACAATACAGC-3'

In addition, Cys65Ala expression vector was prepared using the Quick change site-directed mutagenesis kit (Stratgene, Heiderberg, Germany). This was bound to glutathione (GSH) transferase (GST) gene (EMBL/GenBank/DDBJ™ Accession No.U58012) and Escherichia coli DH5 α (Toyobo) was transformed with the expression vector.

L-PGDS prepared by Escherichia coli DH5α transformed with the expression vector was GST fused protein. The transformant is cultured in LB medium at 37℃. When OD_{600nm} reached 0.5-0.6, IPTG is added to 0.6 to 1 mM and L-PGDS was produced at 37℃ for 6 hours. Then the transformant was isolated from the medium. The obtained transformant was homogenized by sonication and the resultant supernatant was collected by centrifugation to purify the fused enzyme using GSH-Sepharose 4B column chromatography. The fused enzyme was incubated with thrombin to separate L-PGDS and GST, before subjecting to Superdex 75 column chromatography in 5mM Tris/HCl (pH 8.0) followed by Mono-S chromatography in 10 mM sodium citrate to further purify the enzyme.

The site-specific mutagenesis was performed using a Quick change site-directed mutagenesis kit (Stratgene, Heiderberg, Germany). The DNA sequence was confirmed by the determination of cycle sequencing by a SequiTherm cycle sequencing kit (Epicentre Technologies, Madison, WI) followed by LI-COR model 4000L automatic DNA sequencer (LI-COR Inc., Lincoln, NE)

Production of Se-Met-type L-PGDS

E. coli B834(DE3) (Novagene, WI, USA) was transformed by PGRX-2T vector obtained as described above, and cultured in the following amino acid-rich medium containing selenomethionine (g/L): alanine 1.5g, arginine HCl 1.75g;

aspartic acid 1.2g; cystein 0.1g; glutamic acid 2g, glutamin 1 g; glysine 1.626g; histidine 0.175g; isoleucine 0.7g; leucine 0.7g; lysine HCl 1.26g; phenylalanine 0.4g, proline 0.3g; serine 6.25g, threonine 0.7g; tyrosine 0.5g, valine 0.7g; adenine 1g; guanosine 1.33g; thymine 0.33g; uracyl 1g; sodium acetate 1.5g; succinic acid 3g, ammonium chloride 1.5g, sodium hydroxide 0.85g; K_2HPO_4 10.5g; Mg SO_4 0.25g; FeSO4(II) 0.0042; glucose 20g, selenomethionine 0.075g and Kao Michayluk Basal vitamin solution (Sigma-Aldrich). Before the cultivation in the medium above, the transformant was cultured in 1mL of LB medium at 37℃. One mL of the cultured liquid was mixed with 500 mL of the medium above, and further cultured at 37℃ overnight. 50 mL of the 500 mL cultured liquid was added to 350 mL of the above fresh medium, and cultured at 37℃. When OD_{600nm} is 0.5-0.6, IPTG was added to 0.6-1 mM and cultivation was continued at 37℃ for 12 hours to produce L-PGDS.

Se-Met-type L-PGDS was purified in a similar manner as in native-type L-PGDS.

Example 2

Crystallization of L-PGDS

The purified enzyme was dialyzed against 5 mM Tris/HCl (pH 8, crystallizing stock solution) and then concentrated to 10 mg/ml through ultra filtration using YM-3 membrane

(Millipore, Badford, MA). Crystallization was effected with hanging drop vapor diffusion method at a constant temperature of 22.5℃.

The native-type $Cys^{65}Ala$ L-PGDS was crystallized by mixing 2 μl of the 10 mg/mL enzyme solution with an equal volume of a reservoir solution containing 2 M sodium malonate, 0.1M Tris/HCl (pH8) and 10% (v/v) 1,4-dioxane. Rod form crystal having the maximum size of 0.1 x 0.1 x 0.4 mm was obtained within 3 weeks.

Se-Met-type L-PGDS $Cys^{65}Ala$ L-PGDS was also crystallized by the hanging drop vapor diffusion methods. The liquid drop consisted of 2 μl of the 10 mg/mL enzyme solution containing 10μM all-trans retinoic acid and equal volume of mother liquid containing 1.25 M sodium citrate, 10% dioxane, and 2% Triton X-405 in 0.1M Tris/HCl (pH9.5).

Crystallographic parameters were determined using rotating anode-type X-ray generator and Rigaku RAxIS-IV imaging plate system (wave length 1.0000Å)

The native-type L-PGDS has orthorhombic system space group $P2_12_12_1$ and the size of unit cell is a=46.2 Å, b=66.8 Å, and c=105.3 Å. There are two molecules of L-PGDS in crystallographic asymmetrical unit.

The Se-Met-type L-PGDS has orthorhombic system space group $C222_1$ and the size of unit cell is a=45.7Å, b=66.8Å, and c=104.5 Å. There is one molecule of L-PGDS in

crystallographic asymmetrical unit.

Example 3

Data Collection and Structure Determination

Diffraction data for Se-Met type and native-type Cys^{65} Ala L-PGDS crystals were collected on Spring-8 Riken beam line I (BL45XU) protein crystallography station at a temperature of 100K. The diffraction data were treated using DENZO and SCALEPACK (Otwinowski et al., Methods Enzymol., 276:307-326 (1997)). CCP4 Sweet (Collaborative Computational Project, Number 4, 1994) was used for successive crystallographic calculation.

Se-Met type Cys^{65}Ala L-PGDS crystal belonging to space group $C222_1$ was analyzed with multiwaves anomalous dispersion method. The three sites of selenium were found from difference Patterson map. Phase refinement and electron density modification were carried out using SHARP (de La Fortelle et al., Methods Enzymol., 276:472-494(1997)) and SOLOMON (Abrahams et al., Acta Crystallogr., D32:32-42 (1996)). Program O (Jones et al., Acta Crystallogr., A47:110-119(1991)) and XtalView (McRee, Practical protein crystallography, Academic Press, 1993) were used for model construction. Crystallographic refinement was carried out by the cycle in which refinement calculation in consideration of molecule dynamic using CNS

(Brunger et al., Acta Crystallogr., D54:905-921 (1996))) and manual model rectification were alternately effected. Flexible loop region of β barrel portion exhibited weak and unclear electron density. The present model does not include Asn88 of CD loop and 9 N-terminus residues. Crystallographic R and R_{free} for Se-Met enzyme was 0.23 and 0.28 at resolving power of 2.5Å, respectively.

The native-type crystal having $P2_12_12_1$ was solved by molecular replacement followed by crystallographic refinement as above, and then refined by full matrix least squares refinement and manual method. Since CD loop region of one molecule of the two molecules in asymmetrical unit has low electron density, it was not determined. Crystallographic R and R_{free} for native enzyme was 0.24 and 0.28 at resolving power of 2.1 Å , respectively. The native-type structure of $P2_12_12_1$ has the quite similar structure as Se-Met type protein structure of $C222_1$ except for open EF loop exhibiting deviation of more than 4 Å and Phe^{39} (whole atoms r.m.s.d=0.26). There are no residues in the region wherein Ramachandran plot of neither structure coordinates are allowed.

The structure coordinates of native-type L-PGDS are shown in Table 2 and those of Se-Met type L-PGDS in Table 3.

Example 4

Binding of PGD_2 to L-PGDS

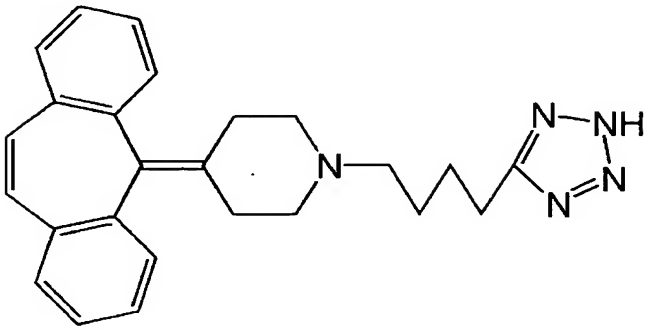
The binding of PGD_2, PGE_2 or $PGF_{2\alpha}$ to L-PGDS was analyzed with BiaCore 2000 system (BiaCore, Uppsala, Sweden) using the surface plasmon resonance method. L-PGDS mutant $Cys^{89,186}Ala$ was immobilized on CM5 sensor chip (BIAcore AB) coated with carboxymethyldextran. Binding assay was carried out at a constant flow rate of 30 μ l /min. in the concentration range of 0.1 to 10 μ M in both the binding phase and the dissociation phase. After each assay, the sensor chip surface was regenerated with 15 μ l of 1.5 M urea. Rate constant values were calculated using analysis soft wear BIA Evaluation 3.0 soft wear after subtracting control surface (bovine serum albumin) using Langmuir 1: 1 binding model by four independent experiments. The results are shown in Figure 7.

Example 5

Search of L-PGDS Inhibitor using Three-Dimensional Structure of L-PGDS

Three-dimensional structure of native-type $Cys^{65}Ala$ L-PGDS was displayed on a computer screen and three dimensional structures of various compounds were tried to fit to the structure of L-PGDS. As a result, it was found that 4-dibenzo(a,d)cyclohepten-5-ylidene-1-(4-(2H-tetrazole-5-yl)butyl)piperidine (referred to as "AT-56"

hereinafter) having the formula:



can fit to the three dimensional structure of L-PGDS. AT-56 is in the pocket formed by the amino acid residues of the sites 39, 40, 43, 45, 48, 54, 67, 69, 77, 79, 92, 94, 96, 105, 107, 109, 116, 118, 120, 129, 131, 133, 145, 147, and 149. Among them, the amino acid residues at the sites 45, 92, 147 and 149 is the substrate-binding sites, and therefore AT-56 is a possible inhibitor of L-PGDS.

Inhibition effect of AT-56 on L-PGDS Enzyme Activity

The inhibition effect of AT-56 on L-PGDS enzyme was examined using human recombinant enzyme and the inhibition effect of AT-56 on H-LGDS enzyme was also examined for comparison.

In the measurement of L-PGDS inhibition activity, [1-^{14}C]PGH_2 (5 μM) as substrate is reacted in the presence of human recombinant L-PGDS, 0.1M Tris-HCl (pH 8.0) and 1mM DTT (dithiothreitol) at 25℃ for 1 minute.

In the measurement of hematopoietic PGD Synthase (H-PGDS), [1-^{14}C]PGH_2 (40 μM) as substrate is reacted in the

presence of 0.1 M Tris-HCl (pH 8.0) and 0.1 mM GSH (reduced glutathione) at 25℃ for 30 seconds.

AT-56 was pretreated for 5 minutes before the addition of the substrate and then the substrate was added. After the completion of the reaction, the reaction liquid was subjected to thin layer chromatography to isolate and quantify PGD_2 to calculate enzyme activity. AT-56 was prepared according to the method described in Japanese Patent Kokai No. 70112/1995, pages 3 and 4.

The result is shown in Figure 10. AT-56 dose-dependently inhibits the isomerization reaction from PGH_2 to PGD_2 and 50% inhibition concentration (IC_{50}) is 95 μM. On the other hand, AT-56 (3 to 300 μM) does not inhibit H-PGDS. It is thus confirmed that At-56 specifically inhibits L-PGDS.

Inhibition Effect of AT-56 on PGD_2 Production from Cell Expressing L-PGDS

The inhibition effect of AT-56 on PGD_2 production by stimulation of calcium ionophore (A23187; 5-(methylamino)-2[[(2R,3R,6S,8S,9r,11R)-3,9,11-trimethl-8-[(1S)-1-methyl-2-oxo-2-(1H-pyrol-2-yl)ethyl]-1,7-dioxaspiro[5.5]undeca-2-yl]methyl-4-benzoxazole carbonic acid) from human cerebellum medulloblast (TE671) expressing L-PGDS was examined. TE-671 is seeded on microplate at the density of $1x10^7$. The cells were stimulated by A231875 (5 μM) to

cause PGD_2 production. AT-56 or vehicle was added to the cell culture medium 15 minutes before the A23187 stimulation. The culture medium was recovered 15 minutes after A23187 stimulation to quantify the PGD_2 concentration in the culture medium by enzyme immunoassay (EIA).

The results are shown in Figure 11. TE-671 cells increase the production of PGD_2 by the stimulation of A23187 as compared with that without stimulation. The production of PGD2 by A23187 stimulation was dose-dependently inhibited by AT-56. The result also confirms that AT-56 is an inhibitor for L-PGDS.

Table 2

Three Dimensional Coordinates of Native-type L-PGDS

ATOM	1	N	GLN	A	35	7.532	25.687	-6.080	1.00 33.40	N
ATOM	2	CA	GLN	A	35	7.880	26.161	-4.715	1.00 32.79	C
ATOM	3	CB	GLN	A	35	6.613	26.584	-3.976	1.00 34.50	C
ATOM	4	CG	GLN	A	35	5.450	25.616	-4.062	1.00 39.74	C
ATOM	5	CD	GLN	A	35	4.209	26.171	-3.369	1.00 49.53	C
ATOM	6	OE1	GLN	A	35	3.153	25.528	-3.327	1.00 50.48	O
ATOM	7	NE2	GLN	A	35	4.337	27.377	-2.817	1.00 49.93	N
ATOM	8	C	GLN	A	35	8.666	25.154	-3.873	1.00 30.34	C
ATOM	9	O	GLN	A	35	9.147	25.489	-2.794	1.00 29.61	O
ATOM	10	N	GLN	A	36	8.811	23.929	-4.367	1.00 27.61	N
ATOM	11	CA	GLN	A	36	9.561	22.906	-3.636	1.00 25.74	C
ATOM	12	CB	GLN	A	36	9.751	21.657	-4.503	1.00 24.32	C

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ATOM   13  CG  GLN A  36      10.312  20.473  -3.731  1.00 24.51   C
ATOM   14  CD  GLN A  36      10.259  19.181  -4.516  1.00 21.94   C
ATOM   15  OE1 GLN A  36      11.020  18.974  -5.459  1.00 30.10   O
ATOM   16  NE2 GLN A  36       9.350  18.307  -4.134  1.00 26.53   N
ATOM   17  C   GLN A  36      10.930  23.421  -3.170  1.00 23.41   C
ATOM   18  O   GLN A  36      11.341  23.145  -2.047  1.00 20.27   O
ATOM   19  N   ASP A  37      11.625  24.162  -4.036  1.00 24.65   N
ATOM   20  CA  ASP A  37      12.942  24.731  -3.709  1.00 24.97   C
ATOM   21  CB  ASP A  37      13.470  25.596  -4.859  1.00 28.96   C
ATOM   22  CG  ASP A  37      14.187  24.793  -5.919  1.00 34.20   C
ATOM   23  OD1 ASP A  37      14.733  25.418  -6.856  1.00 41.87   O
ATOM   24  OD2 ASP A  37      14.208  23.548  -5.820  1.00 45.04   O
ATOM   25  C   ASP A  37      12.915  25.597  -2.457  1.00 23.64   C
ATOM   26  O   ASP A  37      13.938  25.778  -1.795  1.00 23.30   O
ATOM   27  N   LYS A  38      11.745  26.137  -2.139  1.00 22.75   N
ATOM   28  CA  LYS A  38      11.595  26.996  -0.974  1.00 23.00   C
ATOM   29  CB  LYS A  38      10.238  27.717  -1.013  1.00 23.35   C
ATOM   30  CG  LYS A  38      10.024  28.669  -2.185  1.00 23.60   C
ATOM   31  CD  LYS A  38      10.993  29.825  -2.126  1.00 24.32   C
ATOM   32  CE  LYS A  38      10.606  30.923  -3.107  1.00 27.38   C
ATOM   33  NZ  LYS A  38       9.282  31.485  -2.771  1.00 26.05   N
ATOM   34  C   LYS A  38      11.704  26.225   0.341  1.00 22.03   C
ATOM   35  O   LYS A  38      11.980  26.815   1.385  1.00 21.91   O
ATOM   36  N   PHE A  39      11.501  24.912   0.284  1.00 20.33   N
ATOM   37  CA  PHE A  39      11.535  24.079   1.480  1.00 17.56   C
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ATOM   38  CB  PHE A  39      10.391  23.056   1.442  1.00 19.18   C
ATOM   39  CG  PHE A  39       9.012  23.676   1.421  1.00 21.95   C
ATOM   40  CD1 PHE A  39       8.514  24.254   0.263  1.00 16.05   C
ATOM   41  CE1 PHE A  39       7.233  24.811   0.231  1.00 25.13   C
ATOM   42  CZ  PHE A  39       6.442  24.794   1.372  1.00 26.46   C
ATOM   43  CE2 PHE A  39       6.934  24.219   2.544  1.00 28.59   C
ATOM   44  CD2 PHE A  39       8.213  23.664   2.561  1.00 25.15   C
ATOM   45  C   PHE A  39      12.860  23.359   1.692  1.00 18.10   C
ATOM   46  O   PHE A  39      12.999  22.536   2.598  1.00 15.86   O
ATOM   47  N   LEU A  40      13.840  23.662   0.855  1.00 17.02   N
ATOM   48  CA  LEU A  40      15.140  23.037   1.001  1.00 17.96   C
ATOM   49  CB  LEU A  40      16.034  23.360  -0.198  1.00 17.02   C
ATOM   50  CG  LEU A  40      15.501  22.886  -1.546  1.00 20.11   C
ATOM   51  CD1 LEU A  40      16.493  23.229  -2.659  1.00 20.64   C
ATOM   52  CD2 LEU A  40      15.266  21.391  -1.481  1.00 15.79   C
ATOM   53  C   LEU A  40      15.750  23.602   2.271  1.00 17.56   C
ATOM   54  O   LEU A  40      15.202  24.528   2.874  1.00 17.30   O
ATOM   55  N   GLY A  41      16.861  23.019   2.702  1.00 16.10   N
ATOM   56  CA  GLY A  41      17.521  23.531   3.888  1.00 15.92   C
ATOM   57  C   GLY A  41      17.293  22.823   5.207  1.00 15.14   C
ATOM   58  O   GLY A  41      16.873  21.667   5.253  1.00 17.51   O
ATOM   59  N   ARG A  42      17.564  23.550   6.289  1.00 15.43   N
ATOM   60  CA  ARG A  42      17.461  23.028   7.645  1.00 17.08   C
ATOM   61  CB  ARG A  42      18.509  23.721   8.538  1.00 15.38   C
ATOM   62  CG  ARG A  42      18.574  23.214   9.995  1.00 15.81   C
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ATOM	63	CD	ARG	A	42	19.475	24.086	10.917	1.00	17.38	C
ATOM	64	NE	ARG	A	42	18.931	25.430	11.127	1.00	20.69	N
ATOM	65	CZ	ARG	A	42	19.516	26.393	11.846	1.00	24.91	C
ATOM	66	NH1	ARG	A	42	20.676	26.180	12.449	1.00	18.52	N
ATOM	67	NH2	ARG	A	42	18.946	27.591	11.948	1.00	23.29	N
ATOM	68	C	ARG	A	42	16.093	23.133	8.320	1.00	16.71	C
ATOM	69	O	ARG	A	42	15.490	24.209	8.393	1.00	17.77	O
ATOM	70	N	TRP	A	43	15.627	22.001	8.836	1.00	17.28	N
ATOM	71	CA	TRP	A	43	14.356	21.939	9.552	1.00	18.13	C
ATOM	72	CB	TRP	A	43	13.283	21.239	8.721	1.00	15.45	C
ATOM	73	CG	TRP	A	43	12.856	21.946	7.485	1.00	15.71	C
ATOM	74	CD1	TRP	A	43	13.401	21.834	6.233	1.00	15.15	C
ATOM	75	NE1	TRP	A	43	12.662	22.576	5.330	1.00	15.14	N
ATOM	76	CE2	TRP	A	43	11.631	23.187	5.996	1.00	14.06	C
ATOM	77	CD2	TRP	A	43	11.721	22.817	7.357	1.00	12.61	C
ATOM	78	CE3	TRP	A	43	10.778	23.319	8.264	1.00	14.15	C
ATOM	79	CZ3	TRP	A	43	9.777	24.162	7.792	1.00	11.66	C
ATOM	80	CH2	TRP	A	43	9.709	24.512	6.426	1.00	15.44	C
ATOM	81	CZ2	TRP	A	43	10.626	24.034	5.520	1.00	15.17	C
ATOM	82	C	TRP	A	43	14.565	21.126	10.821	1.00	18.08	C
ATOM	83	O	TRP	A	43	15.587	20.460	10.981	1.00	18.87	O
ATOM	84	N	TYR	A	44	13.583	21.173	11.710	1.00	19.02	N
ATOM	85	CA	TYR	A	44	13.617	20.413	12.952	1.00	19.64	C
ATOM	86	CB	TYR	A	44	13.822	21.335	14.154	1.00	19.30	C
ATOM	87	CG	TYR	A	44	15.113	22.102	14.146	1.00	20.96	C

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ATOM   88  CD1 TYR A  44   16.306  21.494  14.524  1.00 21.90   C
ATOM   89  CE1 TYR A  44   17.506  22.194  14.501  1.00 26.37   C
ATOM   90  CZ  TYR A  44   17.512  23.521  14.094  1.00 28.61   C
ATOM   91  OH  TYR A  44   18.690  24.228  14.082  1.00 31.66   O
ATOM   92  CE2 TYR A  44   16.338  24.145  13.710  1.00 26.67   C
ATOM   93  CD2 TYR A  44   15.146  23.434  13.740  1.00 21.12   C
ATOM   94  C   TYR A  44   12.270  19.717  13.120  1.00 18.71   C
ATOM   95  O   TYR A  44   11.221  20.356  12.993  1.00 18.76   O
ATOM   96  N   SER A  45   12.300  18.413  13.388  1.00 20.71   N
ATOM   97  CA  SER A  45   11.072  17.658  13.625  1.00 20.41   C
ATOM   98  CB  SER A  45   11.349  16.153  13.541  1.00 21.74   C
ATOM   99  OG  SER A  45   12.516  15.802  14.276  1.00 19.43   O
ATOM   100  C   SER A  45   10.671  18.051  15.045  1.00 21.87   C
ATOM   101  O   SER A  45   11.377  17.735  16.005  1.00 23.08   O
ATOM   102  N   ALA A  46    9.553  18.764  15.171  1.00 21.80   N
ATOM   103  CA  ALA A  46    9.073  19.239  16.464  1.00 20.98   C
ATOM   104  CB  ALA A  46    8.868  20.756  16.402  1.00 20.73   C
ATOM   105  C   ALA A  46    7.791  18.570  16.945  1.00 21.49   C
ATOM   106  O   ALA A  46    7.464  18.635  18.127  1.00 22.81   O
ATOM   107  N   GLY A  47    7.053  17.947  16.034  1.00 21.44   N
ATOM   108  CA  GLY A  47    5.811  17.293  16.420  1.00 21.24   C
ATOM   109  C   GLY A  47    5.614  15.989  15.682  1.00 20.50   C
ATOM   110  O   GLY A  47    5.926  15.895  14.495  1.00 21.41   O
ATOM   111  N   LEU A  48    5.106  14.976  16.376  1.00 22.43   N
ATOM   112  CA  LEU A  48    4.879  13.674  15.755  1.00 24.18   C
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ATOM   113  CB  LEU A  48      6.119  12.796  15.952  1.00 24.03   C
ATOM   114  CG  LEU A  48      6.216  11.439  15.258  1.00 25.64   C
ATOM   115  CD1 LEU A  48      6.256  11.620  13.745  1.00 23.98   C
ATOM   116  CD2 LEU A  48      7.490  10.732  15.731  1.00 24.77   C
ATOM   117  C   LEU A  48      3.646  12.997  16.353  1.00 25.73   C
ATOM   118  O   LEU A  48      3.460  12.988  17.568  1.00 28.24   O
ATOM   119  N   ALA A  49      2.800  12.438  15.492  1.00 26.62   N
ATOM   120  CA  ALA A  49      1.590  11.755  15.934  1.00 27.70   C
ATOM   121  CB  ALA A  49      0.408  12.706  15.893  1.00 26.11   C
ATOM   122  C   ALA A  49      1.337  10.556  15.029  1.00 29.92   C
ATOM   123  O   ALA A  49      1.610  10.612  13.829  1.00 30.06   O
ATOM   124  N   SER A  50      0.825   9.470  15.604  1.00 33.10   N
ATOM   125  CA  SER A  50      0.556   8.266  14.823  1.00 35.56   C
ATOM   126  CB  SER A  50      1.874   7.657  14.346  1.00 34.98   C
ATOM   127  OG  SER A  50      1.648   6.580  13.458  1.00 37.15   O
ATOM   128  C   SER A  50     -0.233   7.214  15.600  1.00 37.86   C
ATOM   129  O   SER A  50     -0.427   7.333  16.813  1.00 39.05   O
ATOM   130  N   ASN A  51     -0.693   6.185  14.888  1.00 39.58   N
ATOM   131  CA  ASN A  51     -1.447   5.091  15.509  1.00 41.56   C
ATOM   132  CB  ASN A  51     -2.817   4.940  14.841  1.00 41.04   C
ATOM   133  CG  ASN A  51     -2.718   4.653  13.354  1.00 42.05   C
ATOM   134  OD1 ASN A  51     -3.726   4.392  12.698  1.00 45.32   O
ATOM   135  ND2 ASN A  51     -1.511   4.706  12.816  1.00 39.99   N
ATOM   136  C   ASN A  51     -0.658   3.790  15.361  1.00 43.28   C
ATOM   137  O   ASN A  51     -1.097   2.723  15.788  1.00 43.84   O
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ATOM   138  N   SER A  52      0.516   3.901  14.751  1.00 45.47   N
ATOM   139  CA  SER A  52      1.387   2.760  14.514  1.00 47.77   C
ATOM   140  CB  SER A  52      2.663   3.228  13.815  1.00 48.05   C
ATOM   141  OG  SER A  52      3.599   2.173  13.701  1.00 51.48   O
ATOM   142  C   SER A  52      1.755   2.027  15.796  1.00 48.61   C
ATOM   143  O   SER A  52      1.395   2.444  16.895  1.00 49.34   O
ATOM   144  N   SER A  53      2.475   0.923  15.636  1.00 49.72   N
ATOM   145  CA  SER A  53      2.933   0.118  16.762  1.00 50.37   C
ATOM   146  CB  SER A  53      3.129  -1.340  16.333  1.00 50.55   C
ATOM   147  OG  SER A  53      1.912  -1.919  15.891  1.00 52.17   O
ATOM   148  C   SER A  53      4.270   0.704  17.190  1.00 50.30   C
ATOM   149  O   SER A  53      4.579   0.805  18.379  1.00 50.13   O
ATOM   150  N   TRP A  54      5.056   1.082  16.188  1.00 50.56   N
ATOM   151  CA  TRP A  54      6.372   1.678  16.380  1.00 50.79   C
ATOM   152  CB  TRP A  54      6.930   2.116  15.022  1.00 51.39   C
ATOM   153  CG  TRP A  54      8.264   2.783  15.090  1.00 54.05   C
ATOM   154  CD1 TRP A  54      9.472   2.183  15.300  1.00 55.89   C
ATOM   155  NE1 TRP A  54     10.473   3.124  15.315  1.00 56.28   N
ATOM   156  CE2 TRP A  54      9.922   4.362  15.114  1.00 57.18   C
ATOM   157  CD2 TRP A  54      8.529   4.186  14.966  1.00 56.11   C
ATOM   158  CE3 TRP A  54      7.724   5.313  14.746  1.00 57.68   C
ATOM   159  CZ3 TRP A  54      8.330   6.564  14.681  1.00 56.58   C
ATOM   160  CH2 TRP A  54      9.721   6.706  14.833  1.00 57.14   C
ATOM   161  CZ2 TRP A  54     10.531   5.621  15.049  1.00 57.71   C
ATOM   162  C   TRP A  54      6.261   2.889  17.301  1.00 49.63   C
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ATOM   163  O   TRP A  54     6.870   2.935  18.374  1.00 48.99   O
ATOM   164  N   PHE A  55     5.470   3.865  16.868  1.00 48.67   N
ATOM   165  CA  PHE A  55     5.268   5.091  17.625  1.00 47.55   C
ATOM   166  CB  PHE A  55     4.228   5.972  16.928  1.00 47.41   C
ATOM   167  CG  PHE A  55     4.014   7.298  17.599  1.00 46.06   C
ATOM   168  CD1 PHE A  55     5.020   8.258  17.606  1.00 47.31   C
ATOM   169  CE1 PHE A  55     4.833   9.479  18.241  1.00 45.75   C
ATOM   170  CZ  PHE A  55     3.633   9.750  18.875  1.00 45.84   C
ATOM   171  CE2 PHE A  55     2.621   8.798  18.874  1.00 44.73   C
ATOM   172  CD2 PHE A  55     2.816   7.582  18.238  1.00 44.94   C
ATOM   173  C   PHE A  55     4.822   4.805  19.054  1.00 47.07   C
ATOM   174  O   PHE A  55     5.415   5.305  20.011  1.00 45.46   O
ATOM   175  N   ARG A  56     3.775   3.997  19.193  1.00 47.71   N
ATOM   176  CA  ARG A  56     3.243   3.654  20.509  1.00 48.60   C
ATOM   177  CB  ARG A  56     2.030   2.732  20.354  1.00 49.22   C
ATOM   178  CG  ARG A  56     0.822   3.456  19.777  1.00 51.68   C
ATOM   179  CD  ARG A  56    -0.320   2.516  19.428  1.00 56.98   C
ATOM   180  NE  ARG A  56    -1.471   3.257  18.913  1.00 59.80   N
ATOM   181  CZ  ARG A  56    -2.578   2.693  18.444  1.00 61.91   C
ATOM   182  NH1 ARG A  56    -2.691   1.373  18.421  1.00 62.67   N
ATOM   183  NH2 ARG A  56    -3.575   3.449  18.000  1.00 62.84   N
ATOM   184  C   ARG A  56     4.279   3.019  21.426  1.00 48.38   C
ATOM   185  O   ARG A  56     4.270   3.256  22.634  1.00 48.01   O
ATOM   186  N   GLU A  57     5.183   2.230  20.854  1.00 47.94   N
ATOM   187  CA  GLU A  57     6.209   1.573  21.652  1.00 48.73   C
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ATOM   188  CB  GLU A  57     6.275   0.082  21.306  1.00 49.15   C
ATOM   189  CG  GLU A  57     4.958  -0.663  21.500  1.00 50.89   C
ATOM   190  CD  GLU A  57     5.110  -2.170  21.373  1.00 53.24   C
ATOM   191  OE1 GLU A  57     5.686  -2.632  20.363  1.00 53.06   O
ATOM   192  OE2 GLU A  57     4.649  -2.893  22.285  1.00 56.31   O
ATOM   193  C   GLU A  57     7.602   2.188  21.514  1.00 48.51   C
ATOM   194  O   GLU A  57     8.602   1.489  21.668  1.00 48.84   O
ATOM   195  N   LYS A  58     7.668   3.487  21.234  1.00 47.64   N
ATOM   196  CA  LYS A  58     8.950   4.177  21.096  1.00 46.97   C
ATOM   197  CB  LYS A  58     9.579   3.882  19.729  1.00 48.03   C
ATOM   198  CG  LYS A  58    10.147   2.475  19.597  1.00 51.08   C
ATOM   199  CD  LYS A  58    10.780   2.245  18.239  1.00 56.50   C
ATOM   200  CE  LYS A  58    11.185   0.787  18.060  1.00 58.17   C
ATOM   201  NZ  LYS A  58    11.672   0.506  16.677  1.00 59.90   N
ATOM   202  C   LYS A  58     8.826   5.683  21.277  1.00 45.19   C
ATOM   203  O   LYS A  58     9.833   6.388  21.334  1.00 44.57   O
ATOM   204  N   LYS A  59     7.592   6.169  21.371  1.00 43.70   N
ATOM   205  CA  LYS A  59     7.326   7.596  21.532  1.00 42.75   C
ATOM   206  CB  LYS A  59     5.827   7.826  21.698  1.00 43.46   C
ATOM   207  CG  LYS A  59     5.236   7.188  22.944  1.00 45.39   C
ATOM   208  CD  LYS A  59     3.713   7.187  22.902  1.00 48.36   C
ATOM   209  CE  LYS A  59     3.153   8.591  22.714  1.00 50.84   C
ATOM   210  NZ  LYS A  59     3.580   9.517  23.798  1.00 50.65   N
ATOM   211  C   LYS A  59     8.069   8.211  22.714  1.00 41.89   C
ATOM   212  O   LYS A  59     8.541   9.345  22.641  1.00 41.05   O
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ATOM   213  N   ALA A  60     8.176   7.457  23.802  1.00 40.68   N
ATOM   214  CA  ALA A  60     8.858   7.936  24.996  1.00 39.93   C
ATOM   215  CB  ALA A  60     8.704   6.923  26.124  1.00 39.51   C
ATOM   216  C   ALA A  60    10.338   8.235  24.768  1.00 39.23   C
ATOM   217  O   ALA A  60    10.897   9.104  25.436  1.00 39.44   O
ATOM   218  N   VAL A  61    10.970   7.525  23.833  1.00 37.14   N
ATOM   219  CA  VAL A  61    12.395   7.726  23.560  1.00 35.90   C
ATOM   220  CB  VAL A  61    13.141   6.380  23.339  1.00 36.11   C
ATOM   221  CG1 VAL A  61    12.952   5.463  24.537  1.00 34.24   C
ATOM   222  CG2 VAL A  61    12.655   5.721  22.063  1.00 35.38   C
ATOM   223  C   VAL A  61    12.698   8.602  22.351  1.00 35.45   C
ATOM   224  O   VAL A  61    13.856   8.716  21.940  1.00 35.12   O
ATOM   225  N   LEU A  62    11.670   9.219  21.778  1.00 33.84   N
ATOM   226  CA  LEU A  62    11.873  10.074  20.614  1.00 32.75   C
ATOM   227  CB  LEU A  62    10.621  10.062  19.734  1.00 33.05   C
ATOM   228  CG  LEU A  62    10.265   8.671  19.212  1.00 35.96   C
ATOM   229  CD1 LEU A  62     9.046   8.756  18.313  1.00 34.96   C
ATOM   230  CD2 LEU A  62    11.457   8.086  18.460  1.00 39.51   C
ATOM   231  C   LEU A  62    12.242  11.512  20.970  1.00 30.66   C
ATOM   232  O   LEU A  62    11.663  12.113  21.872  1.00 30.48   O
ATOM   233  N   TYR A  63    13.226  12.053  20.261  1.00 29.47   N
ATOM   234  CA  TYR A  63    13.658  13.425  20.484  1.00 27.67   C
ATOM   235  CB  TYR A  63    15.103  13.481  21.003  1.00 29.10   C
ATOM   236  CG  TYR A  63    15.316  12.881  22.378  1.00 31.25   C
ATOM   237  CD1 TYR A  63    15.441  11.503  22.549  1.00 33.47   C
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ATOM    238  CE1 TYR A  63     15.642  10.948  23.810  1.00 39.12    C
ATOM    239  CZ  TYR A  63     15.716  11.776  24.922  1.00 38.97    C
ATOM    240  OH  TYR A  63     15.905  11.223  26.175  1.00 44.99    O
ATOM    241  CE2 TYR A  63     15.593  13.152  24.776  1.00 37.23    C
ATOM    242  CD2 TYR A  63     15.394  13.694  23.508  1.00 32.70    C
ATOM    243  C   TYR A  63     13.582  14.202  19.181  1.00 25.92    C
ATOM    244  O   TYR A  63     13.420  13.628  18.107  1.00 26.31    O
ATOM    245  N   MET A  64     13.705  15.517  19.289  1.00 24.98    N
ATOM    246  CA  MET A  64     13.685  16.381  18.127  1.00 22.50    C
ATOM    247  CB  MET A  64     13.755  17.838  18.549  1.00 21.53    C
ATOM    248  CG  MET A  64     14.062  18.792  17.408  1.00 23.46    C
ATOM    249  SD  MET A  64     14.026  20.469  17.999  1.00 24.75    S
ATOM    250  CE  MET A  64     12.269  20.682  18.254  1.00 26.17    C
ATOM    251  C   MET A  64     14.898  16.059  17.299  1.00 21.60    C
ATOM    252  O   MET A  64     15.984  15.876  17.840  1.00 20.32    O
ATOM    253  N   ALA A  65     14.714  16.000  15.984  1.00 21.77    N
ATOM    254  CA  ALA A  65     15.801  15.702  15.071  1.00 21.68    C
ATOM    255  CB  ALA A  65     15.484  14.450  14.268  1.00 22.60    C
ATOM    256  C   ALA A  65     16.048  16.866  14.130  1.00 21.03    C
ATOM    257  O   ALA A  65     15.154  17.670  13.870  1.00 20.19    O
ATOM    258  N   LYS A  66     17.274  16.959  13.633  1.00 22.99    N
ATOM    259  CA  LYS A  66     17.626  18.010  12.693  1.00 22.22    C
ATOM    260  CB  LYS A  66     19.024  18.564  12.967  1.00 23.06    C
ATOM    261  CG  LYS A  66     19.499  19.477  11.847  1.00 24.65    C
ATOM    262  CD  LYS A  66     21.009  19.641  11.800  1.00 30.24    C
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ATOM    263  CE  LYS A  66      21.462  20.820  12.622  1.00 35.63      C
ATOM    264  NZ  LYS A  66      22.848  21.237  12.231  1.00 43.47      N
ATOM    265  C   LYS A  66      17.608  17.356  11.326  1.00 23.44      C
ATOM    266  O   LYS A  66      18.312  16.375  11.091  1.00 24.56      O
ATOM    267  N   THR A  67      16.802  17.898  10.427  1.00 20.70      N
ATOM    268  CA  THR A  67      16.690  17.344   9.085  1.00 20.77      C
ATOM    269  CB  THR A  67      15.235  16.874   8.816  1.00 19.10      C
ATOM    270  OG1 THR A  67      14.823  16.005   9.868  1.00 22.20      O
ATOM    271  CG2 THR A  67      15.137  16.133   7.516  1.00 22.53      C
ATOM    272  C   THR A  67      17.085  18.378   8.030  1.00 19.13      C
ATOM    273  O   THR A  67      16.536  19.483   7.992  1.00 19.67      O
ATOM    274  N   VAL A  68      18.047  18.016   7.189  1.00 17.58      N
ATOM    275  CA  VAL A  68      18.494  18.900   6.120  1.00 18.47      C
ATOM    276  CB  VAL A  68      20.042  18.944   6.026  1.00 16.97      C
ATOM    277  CG1 VAL A  68      20.480  19.900   4.914  1.00 19.31      C
ATOM    278  CG2 VAL A  68      20.622  19.408   7.349  1.00 17.36      C
ATOM    279  C   VAL A  68      17.891  18.378   4.824  1.00 16.74      C
ATOM    280  O   VAL A  68      18.012  17.198   4.496  1.00 17.78      O
ATOM    281  N   VAL A  69      17.235  19.271   4.095  1.00 15.74      N
ATOM    282  CA  VAL A  69      16.565  18.904   2.860  1.00 14.97      C
ATOM    283  CB  VAL A  69      15.113  19.412   2.894  1.00 16.13      C
ATOM    284  CG1 VAL A  69      14.370  18.984   1.643  1.00 18.02      C
ATOM    285  CG2 VAL A  69      14.417  18.867   4.145  1.00 15.17      C
ATOM    286  C   VAL A  69      17.250  19.405   1.595  1.00 14.61      C
ATOM    287  O   VAL A  69      17.645  20.560   1.504  1.00 14.02      O
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ATOM	288	N	ALA	A	70	17.387	18.519	0.616	1.00	15.92	N
ATOM	289	CA	ALA	A	70	18.015	18.856	-0.661	1.00	16.00	C
ATOM	290	CB	ALA	A	70	19.513	18.524	-0.618	1.00	17.37	C
ATOM	291	C	ALA	A	70	17.316	18.054	-1.749	1.00	15.57	C
ATOM	292	O	ALA	A	70	16.585	17.110	-1.452	1.00	17.54	O
ATOM	293	N	PRO	A	71	17.535	18.411	-3.023	1.00	15.95	N
ATOM	294	CA	PRO	A	71	16.886	17.686	-4.123	1.00	16.43	C
ATOM	295	CB	PRO	A	71	17.345	18.453	-5.369	1.00	16.22	C
ATOM	296	CG	PRO	A	71	17.689	19.839	-4.838	1.00	17.77	C
ATOM	297	CD	PRO	A	71	18.362	19.521	-3.536	1.00	15.68	C
ATOM	298	C	PRO	A	71	17.257	16.216	-4.204	1.00	16.59	C
ATOM	299	O	PRO	A	71	18.367	15.841	-3.853	1.00	16.86	O
ATOM	300	N	SER	A	72	16.320	15.391	-4.665	1.00	18.06	N
ATOM	301	CA	SER	A	72	16.567	13.972	-4.830	1.00	18.01	C
ATOM	302	CB	SER	A	72	15.367	13.145	-4.367	1.00	19.58	C
ATOM	303	OG	SER	A	72	14.336	13.166	-5.335	1.00	21.44	O
ATOM	304	C	SER	A	72	16.805	13.759	-6.322	1.00	18.75	C
ATOM	305	O	SER	A	72	16.501	14.637	-7.133	1.00	16.43	O
ATOM	306	N	THR	A	73	17.347	12.597	-6.679	1.00	18.47	N
ATOM	307	CA	THR	A	73	17.654	12.272	-8.075	1.00	20.83	C
ATOM	308	CB	THR	A	73	18.125	10.806	-8.218	1.00	20.62	C
ATOM	309	OG1	THR	A	73	19.179	10.534	-7.285	1.00	16.43	O
ATOM	310	CG2	THR	A	73	18.617	10.550	-9.632	1.00	22.06	C
ATOM	311	C	THR	A	73	16.495	12.451	-9.053	1.00	24.09	C
ATOM	312	O	THR	A	73	16.659	13.062	-10.117	1.00	25.21	O

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ATOM    313  N   GLU A  74      15.334  11.908  -8.687  1.00 25.04   N
ATOM    314  CA  GLU A  74      14.138  11.929  -9.533  1.00 25.92   C
ATOM    315  CB  GLU A  74      13.236  10.750  -9.159  1.00 26.06   C
ATOM    316  CG  GLU A  74      12.406  10.178 -10.286  1.00 34.32   C
ATOM    317  CD  GLU A  74      13.256   9.541 -11.370  1.00 38.16   C
ATOM    318  OE1 GLU A  74      14.199   8.801 -11.024  1.00 41.27   O
ATOM    319  OE2 GLU A  74      12.975   9.771 -12.568  1.00 40.53   O
ATOM    320  C   GLU A  74      13.333  13.217  -9.440  1.00 26.08   C
ATOM    321  O   GLU A  74      12.262  13.321 -10.025  1.00 24.26   O
ATOM    322  N   GLY A  75      13.840  14.194  -8.701  1.00 26.42   N
ATOM    323  CA  GLY A  75      13.117  15.445  -8.570  1.00 22.94   C
ATOM    324  C   GLY A  75      12.382  15.554  -7.247  1.00 23.36   C
ATOM    325  O   GLY A  75      11.727  16.566  -6.979  1.00 23.95   O
ATOM    326  N   GLY A  76      12.478  14.509  -6.427  1.00 21.05   N
ATOM    327  CA  GLY A  76      11.831  14.516  -5.123  1.00 19.01   C
ATOM    328  C   GLY A  76      12.760  15.147  -4.095  1.00 18.58   C
ATOM    329  O   GLY A  76      13.564  16.004  -4.450  1.00 18.03   O
ATOM    330  N   LEU A  77      12.672  14.723  -2.834  1.00 17.32   N
ATOM    331  CA  LEU A  77      13.518  15.288  -1.789  1.00 16.39   C
ATOM    332  CB  LEU A  77      12.663  16.094  -0.804  1.00 17.26   C
ATOM    333  CG  LEU A  77      11.836  17.252  -1.368  1.00 18.75   C
ATOM    334  CD1 LEU A  77      10.833  17.685  -0.329  1.00 21.30   C
ATOM    335  CD2 LEU A  77      12.741  18.423  -1.794  1.00 17.34   C
ATOM    336  C   LEU A  77      14.354  14.293  -0.987  1.00 17.25   C
ATOM    337  O   LEU A  77      13.886  13.223  -0.602  1.00 17.86   O
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ATOM    338  N   ASN A  78      15.603  14.676  -0.741  1.00 16.40   N
ATOM    339  CA  ASN A  78      16.521  13.884   0.062  1.00 16.85   C
ATOM    340  CB  ASN A  78      17.966  14.049  -0.421  1.00 17.82   C
ATOM    341  CG  ASN A  78      18.362  13.029  -1.456  1.00 16.18   C
ATOM    342  OD1 ASN A  78      17.533  12.293  -1.972  1.00 14.36   O
ATOM    343  ND2 ASN A  78      19.653  12.982  -1.767  1.00 16.85   N
ATOM    344  C   ASN A  78      16.401  14.508   1.444  1.00 18.05   C
ATOM    345  O   ASN A  78      16.472  15.730   1.573  1.00 17.02   O
ATOM    346  N   LEU A  79      16.202  13.682   2.463  1.00 17.20   N
ATOM    347  CA  LEU A  79      16.096  14.161   3.829  1.00 17.68   C
ATOM    348  CB  LEU A  79      14.717  13.826   4.427  1.00 19.58   C
ATOM    349  CG  LEU A  79      13.572  14.852   4.291  1.00 19.99   C
ATOM    350  CD1 LEU A  79      13.158  15.002   2.851  1.00 17.35   C
ATOM    351  CD2 LEU A  79      12.386  14.413   5.126  1.00 21.80   C
ATOM    352  C   LEU A  79      17.196  13.480   4.642  1.00 18.93   C
ATOM    353  O   LEU A  79      17.177  12.264   4.833  1.00 17.64   O
ATOM    354  N   THR A  80      18.167  14.271   5.096  1.00 18.20   N
ATOM    355  CA  THR A  80      19.265  13.749   5.896  1.00 18.43   C
ATOM    356  CB  THR A  80      20.616  14.317   5.406  1.00 17.16   C
ATOM    357  OG1 THR A  80      20.805  13.949   4.029  1.00 17.30   O
ATOM    358  CG2 THR A  80      21.772  13.765   6.241  1.00 17.81   C
ATOM    359  C   THR A  80      18.987  14.174   7.327  1.00 19.48   C
ATOM    360  O   THR A  80      19.005  15.360   7.649  1.00 19.03   O
ATOM    361  N   SER A  81      18.698  13.201   8.181  1.00 19.91   N
ATOM    362  CA  SER A  81      18.383  13.489   9.569  1.00 22.53   C
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ATOM    363  CB  SER A  81      17.027  12.867   9.945  1.00 23.42   C
ATOM    364  OG  SER A  81      15.958  13.406   9.166  1.00 25.72   O
ATOM    365  C   SER A  81      19.443  13.015  10.554  1.00 24.28   C
ATOM    366  O   SER A  81      20.011  11.920  10.425  1.00 25.45   O
ATOM    367  N   THR A  82      19.703  13.870  11.532  1.00 25.36   N
ATOM    368  CA  THR A  82      20.655  13.602  12.596  1.00 27.24   C
ATOM    369  CB  THR A  82      21.618  14.791  12.787  1.00 26.98   C
ATOM    370  OG1 THR A  82      22.329  15.034  11.566  1.00 30.38   O
ATOM    371  CG2 THR A  82      22.616  14.501  13.905  1.00 27.31   C
ATOM    372  C   THR A  82      19.779  13.460  13.840  1.00 28.34   C
ATOM    373  O   THR A  82      19.031  14.381  14.176  1.00 28.53   O
ATOM    374  N   PHE A  83      19.866  12.317  14.519  1.00 29.40   N
ATOM    375  CA  PHE A  83      19.043  12.076  15.700  1.00 31.45   C
ATOM    376  CB  PHE A  83      17.748  11.382  15.279  1.00 32.44   C
ATOM    377  CG  PHE A  83      17.968  10.118  14.493  1.00 33.67   C
ATOM    378  CD1 PHE A  83      18.310  10.171  13.146  1.00 32.21   C
ATOM    379  CE1 PHE A  83      18.532   9.005  12.418  1.00 35.94   C
ATOM    380  CZ  PHE A  83      18.415   7.766  13.037  1.00 35.35   C
ATOM    381  CE2 PHE A  83      18.075   7.699  14.382  1.00 37.16   C
ATOM    382  CD2 PHE A  83      17.853   8.873  15.104  1.00 33.77   C
ATOM    383  C   PHE A  83      19.715  11.249  16.797  1.00 33.26   C
ATOM    384  O   PHE A  83      20.721  10.571  16.569  1.00 33.27   O
ATOM    385  N   LEU A  84      19.137  11.315  17.991  1.00 35.25   N
ATOM    386  CA  LEU A  84      19.633  10.578  19.148  1.00 37.42   C
ATOM    387  CB  LEU A  84      19.424  11.413  20.415  1.00 37.09   C
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ATOM   388  CG  LEU A  84     19.882  10.858  21.769  1.00 39.37   C
ATOM   389  CD1 LEU A  84     21.401  10.658  21.774  1.00 37.77   C
ATOM   390  CD2 LEU A  84     19.467  11.824  22.870  1.00 39.73   C
ATOM   391  C   LEU A  84     18.836   9.272  19.226  1.00 39.36   C
ATOM   392  O   LEU A  84     17.620   9.292  19.415  1.00 38.00   O
ATOM   393  N   ARG A  85     19.524   8.145  19.062  1.00 42.28   N
ATOM   394  CA  ARG A  85     18.887   6.828  19.092  1.00 46.17   C
ATOM   395  CB  ARG A  85     19.617   5.895  18.124  1.00 47.06   C
ATOM   396  CG  ARG A  85     19.280   4.412  18.240  1.00 50.03   C
ATOM   397  CD  ARG A  85     17.975   4.035  17.555  1.00 54.72   C
ATOM   398  NE  ARG A  85     18.016   2.648  17.088  1.00 59.25   N
ATOM   399  CZ  ARG A  85     16.987   1.994  16.553  1.00 60.78   C
ATOM   400  NH1 ARG A  85     15.812   2.596  16.410  1.00 62.71   N
ATOM   401  NH2 ARG A  85     17.135   0.736  16.154  1.00 59.48   N
ATOM   402  C   ARG A  85     18.894   6.224  20.493  1.00 48.27   C
ATOM   403  O   ARG A  85     17.842   5.982  21.096  1.00 49.91   O
ATOM   404  N   LYS A  86     20.094   5.966  20.999  1.00 49.22   N
ATOM   405  CA  LYS A  86     20.266   5.397  22.329  1.00 50.08   C
ATOM   406  CB  LYS A  86     20.385   3.873  22.242  1.00 50.26   C
ATOM   407  CG  LYS A  86     19.188   3.195  21.587  1.00 52.36   C
ATOM   408  CD  LYS A  86     19.420   1.702  21.391  1.00 54.20   C
ATOM   409  CE  LYS A  86     18.224   1.049  20.709  1.00 56.17   C
ATOM   410  NZ  LYS A  86     18.420  -0.410  20.487  1.00 57.21   N
ATOM   411  C   LYS A  86     21.550   5.991  22.882  1.00 50.00   C
ATOM   412  O   LYS A  86     22.583   5.323  22.939  1.00 49.77   O
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ATOM   413  N   ASN A  87    21.478   7.260  23.273  1.00 50.54   N
ATOM   414  CA  ASN A  87    22.632   7.974  23.800  1.00 50.72   C
ATOM   415  CB  ASN A  87    23.159   7.284  25.063  1.00 51.47   C
ATOM   416  CG  ASN A  87    22.168   7.337  26.219  1.00 52.54   C
ATOM   417  OD1 ASN A  87    21.041   6.841  26.118  1.00 53.17   O
ATOM   418  ND2 ASN A  87    22.586   7.940  27.325  1.00 53.77   N
ATOM   419  C   ASN A  87    23.722   8.028  22.735  1.00 50.39   C
ATOM   420  O   ASN A  87    24.910   8.064  23.047  1.00 50.96   O
ATOM   421  N   GLN A  88    23.303   8.032  21.474  1.00 49.81   N
ATOM   422  CA  GLN A  88    24.235   8.088  20.355  1.00 49.12   C
ATOM   423  CB  GLN A  88    24.552   6.676  19.859  1.00 49.66   C
ATOM   424  CG  GLN A  88    25.641   6.620  18.804  1.00 52.17   C
ATOM   425  CD  GLN A  88    25.868   5.217  18.273  1.00 54.04   C
ATOM   426  OE1 GLN A  88    25.080   4.704  17.470  1.00 55.11   O
ATOM   427  NE2 GLN A  88    26.943   4.582  18.729  1.00 53.14   N
ATOM   428  C   GLN A  88    23.640   8.901  19.212  1.00 47.52   C
ATOM   429  O   GLN A  88    22.445   8.819  18.935  1.00 46.71   O
ATOM   430  N   CYS A  89    24.482   9.690  18.554  1.00 46.02   N
ATOM   431  CA  CYS A  89    24.038  10.504  17.435  1.00 44.64   C
ATOM   432  CB  CYS A  89    24.929  11.736  17.271  1.00 45.12   C
ATOM   433  SG  CYS A  89    24.884  12.871  18.685  1.00 48.12   S
ATOM   434  C   CYS A  89    24.084   9.684  16.158  1.00 42.99   C
ATOM   435  O   CYS A  89    25.144   9.207  15.750  1.00 42.55   O
ATOM   436  N   GLU A  90    22.928   9.515  15.531  1.00 39.97   N
ATOM   437  CA  GLU A  90    22.856   8.763  14.295  1.00 38.16   C
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ATOM    438  CB  GLU A  90      21.899   7.582  14.450  1.00 38.06      C
ATOM    439  CG  GLU A  90      22.573   6.322  14.964  1.00 42.17      C
ATOM    440  CD  GLU A  90      21.585   5.227  15.312  1.00 46.43      C
ATOM    441  OE1 GLU A  90      20.657   4.981  14.511  1.00 46.83      O
ATOM    442  OE2 GLU A  90      21.745   4.604  16.389  1.00 50.51      O
ATOM    443  C   GLU A  90      22.410   9.657  13.157  1.00 36.50      C
ATOM    444  O   GLU A  90      21.854  10.729  13.372  1.00 35.05      O
ATOM    445  N   THR A  91      22.678   9.214  11.940  1.00 34.79      N
ATOM    446  CA  THR A  91      22.295   9.957  10.761  1.00 34.31      C
ATOM    447  CB  THR A  91      23.500  10.641  10.100  1.00 34.34      C
ATOM    448  OG1 THR A  91      23.799  11.852  10.805  1.00 30.72      O
ATOM    449  CG2 THR A  91      23.202  10.958   8.642  1.00 33.63      C
ATOM    450  C   THR A  91      21.668   8.991   9.787  1.00 34.16      C
ATOM    451  O   THR A  91      22.191   7.907   9.545  1.00 35.05      O
ATOM    452  N   LYS A  92      20.530   9.393   9.240  1.00 33.69      N
ATOM    453  CA  LYS A  92      19.810   8.571   8.289  1.00 33.19      C
ATOM    454  CB  LYS A  92      18.573   7.967   8.963  1.00 34.05      C
ATOM    455  CG  LYS A  92      17.636   7.235   8.023  1.00 38.78      C
ATOM    456  CD  LYS A  92      16.512   6.537   8.781  1.00 46.23      C
ATOM    457  CE  LYS A  92      15.775   5.552   7.877  1.00 48.21      C
ATOM    458  NZ  LYS A  92      14.772   4.739   8.630  1.00 51.87      N
ATOM    459  C   LYS A  92      19.395   9.419   7.094  1.00 31.39      C
ATOM    460  O   LYS A  92      19.155  10.619   7.224  1.00 30.85      O
ATOM    461  N   ILE A  93      19.323   8.786   5.930  1.00 29.87      N
ATOM    462  CA  ILE A  93      18.924   9.466   4.714  1.00 30.20      C
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ATOM   463  CB  ILE A  93      20.005   9.352   3.620  1.00 29.62   C
ATOM   464  CG1 ILE A  93      21.270  10.100   4.057  1.00 29.97   C
ATOM   465  CD1 ILE A  93      22.423   9.998   3.066  1.00 34.73   C
ATOM   466  CG2 ILE A  93      19.470   9.910   2.304  1.00 32.79   C
ATOM   467  C   ILE A  93      17.635   8.853   4.190  1.00 30.28   C
ATOM   468  O   ILE A  93      17.567   7.647   3.943  1.00 31.07   O
ATOM   469  N   MET A  94      16.609   9.686   4.049  1.00 28.71   N
ATOM   470  CA  MET A  94      15.320   9.242   3.531  1.00 28.72   C
ATOM   471  CB  MET A  94      14.180   9.605   4.482  1.00 30.09   C
ATOM   472  CG  MET A  94      14.264   8.983   5.854  1.00 34.64   C
ATOM   473  SD  MET A  94      12.774   9.336   6.815  1.00 47.69   S
ATOM   474  CE  MET A  94      13.206  10.852   7.645  1.00 42.95   C
ATOM   475  C   MET A  94      15.077   9.934   2.198  1.00 25.85   C
ATOM   476  O   MET A  94      15.382  11.111   2.028  1.00 25.26   O
ATOM   477  N   VAL A  95      14.523   9.192   1.254  1.00 24.35   N
ATOM   478  CA  VAL A  95      14.234   9.727  -0.067  1.00 22.51   C
ATOM   479  CB  VAL A  95      14.830   8.842  -1.183  1.00 22.28   C
ATOM   480  CG1 VAL A  95      14.286   9.285  -2.523  1.00 22.94   C
ATOM   481  CG2 VAL A  95      16.355   8.923  -1.171  1.00 24.47   C
ATOM   482  C   VAL A  95      12.737   9.812  -0.301  1.00 21.24   C
ATOM   483  O   VAL A  95      12.052   8.791  -0.331  1.00 21.21   O
ATOM   484  N   LEU A  96      12.232  11.033  -0.436  1.00 19.49   N
ATOM   485  CA  LEU A  96      10.825  11.245  -0.729  1.00 21.14   C
ATOM   486  CB  LEU A  96      10.307  12.537  -0.088  1.00 19.27   C
ATOM   487  CG  LEU A  96      10.224  12.600   1.444  1.00 25.73   C
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ATOM   488  CD1 LEU A  96    9.644  13.948   1.877  1.00 26.81   C
ATOM   489  CD2 LEU A  96    9.366  11.463   1.966  1.00 24.23   C
ATOM   490  C   LEU A  96   10.728  11.344  -2.252  1.00 21.23   C
ATOM   491  O   LEU A  96   11.129  12.355  -2.849  1.00 21.09   O
ATOM   492  N   GLN A  97   10.214  10.282  -2.873  1.00 20.36   N
ATOM   493  CA  GLN A  97   10.063  10.223  -4.321  1.00 22.02   C
ATOM   494  CB  GLN A  97    9.916   8.771  -4.790  1.00 23.57   C
ATOM   495  CG  GLN A  97   11.029   7.823  -4.391  1.00 24.69   C
ATOM   496  CD  GLN A  97   12.313   8.111  -5.120  1.00 28.37   C
ATOM   497  OE1 GLN A  97   12.318   8.775  -6.155  1.00 28.08   O
ATOM   498  NE2 GLN A  97   13.414   7.601  -4.592  1.00 31.31   N
ATOM   499  C   GLN A  97    8.821  10.986  -4.758  1.00 21.48   C
ATOM   500  O   GLN A  97    7.757  10.836  -4.164  1.00 21.39   O
ATOM   501  N   PRO A  98    8.936  11.805  -5.815  1.00 22.84   N
ATOM   502  CA  PRO A  98    7.764  12.554  -6.273  1.00 23.56   C
ATOM   503  CB  PRO A  98    8.269  13.252  -7.540  1.00 22.35   C
ATOM   504  CG  PRO A  98    9.343  12.347  -8.022  1.00 24.97   C
ATOM   505  CD  PRO A  98   10.057  11.974  -6.749  1.00 20.37   C
ATOM   506  C   PRO A  98    6.621  11.585  -6.543  1.00 25.12   C
ATOM   507  O   PRO A  98    6.847  10.473  -7.029  1.00 25.87   O
ATOM   508  N   ALA A  99    5.401  12.001  -6.219  1.00 24.77   N
ATOM   509  CA  ALA A  99    4.232  11.151  -6.410  1.00 26.15   C
ATOM   510  CB  ALA A  99    3.638  10.799  -5.053  1.00 24.62   C
ATOM   511  C   ALA A  99    3.149  11.739  -7.323  1.00 27.20   C
ATOM   512  O   ALA A  99    1.973  11.766  -6.968  1.00 29.29   O
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ATOM    513  N   GLY A 100     3.547  12.223  -8.491  1.00 29.32   N
ATOM    514  CA  GLY A 100     2.574  12.756  -9.435  1.00 30.75   C
ATOM    515  C   GLY A 100     2.006  14.156  -9.255  1.00 30.83   C
ATOM    516  O   GLY A 100     1.253  14.621 -10.118  1.00 32.00   O
ATOM    517  N   ALA A 101     2.337  14.832  -8.158  1.00 27.81   N
ATOM    518  CA  ALA A 101     1.832  16.185  -7.931  1.00 27.20   C
ATOM    519  CB  ALA A 101     0.371  16.134  -7.475  1.00 27.02   C
ATOM    520  C   ALA A 101     2.675  16.937  -6.904  1.00 25.78   C
ATOM    521  O   ALA A 101     3.185  16.348  -5.947  1.00 25.96   O
ATOM    522  N   PRO A 102     2.818  18.260  -7.082  1.00 26.56   N
ATOM    523  CA  PRO A 102     3.615  19.056  -6.146  1.00 25.86   C
ATOM    524  CB  PRO A 102     3.415  20.487  -6.650  1.00 27.20   C
ATOM    525  CG  PRO A 102     3.201  20.290  -8.120  1.00 29.43   C
ATOM    526  CD  PRO A 102     2.255  19.118  -8.144  1.00 25.60   C
ATOM    527  C   PRO A 102     3.164  18.880  -4.703  1.00 24.43   C
ATOM    528  O   PRO A 102     1.986  19.050  -4.386  1.00 25.38   O
ATOM    529  N   GLY A 103     4.102  18.526  -3.831  1.00 22.57   N
ATOM    530  CA  GLY A 103     3.764  18.351  -2.429  1.00 21.83   C
ATOM    531  C   GLY A 103     3.324  16.944  -2.063  1.00 19.05   C
ATOM    532  O   GLY A 103     2.941  16.685  -0.920  1.00 20.94   O
ATOM    533  N   HIS A 104     3.393  16.034  -3.028  1.00 18.00   N
ATOM    534  CA  HIS A 104     3.016  14.644  -2.811  1.00 18.06   C
ATOM    535  CB  HIS A 104     1.845  14.277  -3.719  1.00 17.03   C
ATOM    536  CG  HIS A 104     0.598  15.044  -3.417  1.00 21.85   C
ATOM    537  ND1 HIS A 104    -0.398  14.555  -2.599  1.00 19.71   N
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ATOM    538  CE1 HIS A 104    -1.329  15.478  -2.450  1.00 22.98   C
ATOM    539  NE2 HIS A 104    -0.977  16.546  -3.144  1.00 16.26   N
ATOM    540  CD2 HIS A 104     0.221  16.299  -3.761  1.00 18.82   C
ATOM    541  C   HIS A 104     4.205  13.741  -3.094  1.00 16.96   C
ATOM    542  O   HIS A 104     4.812  13.815  -4.154  1.00 15.44   O
ATOM    543  N   TYR A 105     4.521  12.873  -2.143  1.00 18.87   N
ATOM    544  CA  TYR A 105     5.662  11.982  -2.284  1.00 18.50   C
ATOM    545  CB  TYR A 105     6.836  12.516  -1.456  1.00 20.43   C
ATOM    546  CG  TYR A 105     7.115  13.996  -1.628  1.00 20.21   C
ATOM    547  CD1 TYR A 105     7.957  14.453  -2.645  1.00 18.18   C
ATOM    548  CE1 TYR A 105     8.200  15.810  -2.821  1.00 20.31   C
ATOM    549  CZ  TYR A 105     7.599  16.732  -1.975  1.00 20.71   C
ATOM    550  OH  TYR A 105     7.845  18.072  -2.157  1.00 25.46   O
ATOM    551  CE2 TYR A 105     6.756  16.310  -0.952  1.00 18.08   C
ATOM    552  CD2 TYR A 105     6.521  14.941  -0.784  1.00 19.32   C
ATOM    553  C   TYR A 105     5.349  10.579  -1.785  1.00 20.66   C
ATOM    554  O   TYR A 105     4.355  10.350  -1.101  1.00 21.05   O
ATOM    555  N   THR A 106     6.220   9.643  -2.136  1.00 21.73   N
ATOM    556  CA  THR A 106     6.110   8.274  -1.666  1.00 25.27   C
ATOM    557  CB  THR A 106     5.940   7.271  -2.825  1.00 24.65   C
ATOM    558  OG1 THR A 106     7.009   7.427  -3.768  1.00 27.25   O
ATOM    559  CG2 THR A 106     4.603   7.503  -3.531  1.00 26.01   C
ATOM    560  C   THR A 106     7.425   8.017  -0.932  1.00 26.95   C
ATOM    561  O   THR A 106     8.470   8.556  -1.304  1.00 25.88   O
ATOM    562  N   TYR A 107     7.375   7.209   0.118  1.00 30.17   N
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ATOM   563  CA  TYR A 107     8.570   6.916   0.896  1.00 33.45   C
ATOM   564  CB  TYR A 107     8.648   7.896   2.077  1.00 35.24   C
ATOM   565  CG  TYR A 107     8.918   7.296   3.437  1.00 39.36   C
ATOM   566  CD1 TYR A 107    10.146   6.707   3.736  1.00 43.99   C
ATOM   567  CE1 TYR A 107    10.401   6.182   4.999  1.00 47.50   C
ATOM   568  CZ  TYR A 107     9.415   6.243   5.974  1.00 47.29   C
ATOM   569  OH  TYR A 107     9.645   5.718   7.230  1.00 48.91   O
ATOM   570  CE2 TYR A 107     8.190   6.823   5.693  1.00 44.53   C
ATOM   571  CD2 TYR A 107     7.949   7.342   4.434  1.00 43.15   C
ATOM   572  C   TYR A 107     8.642   5.478   1.379  1.00 35.14   C
ATOM   573  O   TYR A 107     7.682   4.943   1.924  1.00 35.69   O
ATOM   574  N   SER A 108     9.800   4.864   1.172  1.00 37.81   N
ATOM   575  CA  SER A 108    10.041   3.490   1.592  1.00 41.97   C
ATOM   576  CB  SER A 108    11.115   2.855   0.711  1.00 41.43   C
ATOM   577  OG  SER A 108    11.572   1.645   1.282  1.00 44.65   O
ATOM   578  C   SER A 108    10.500   3.455   3.047  1.00 43.76   C
ATOM   579  O   SER A 108    11.583   3.940   3.372  1.00 45.52   O
ATOM   580  N   SER A 109     9.684   2.868   3.918  1.00 46.53   N
ATOM   581  CA  SER A 109    10.017   2.794   5.337  1.00 47.99   C
ATOM   582  CB  SER A 109     8.740   2.876   6.173  1.00 48.18   C
ATOM   583  OG  SER A 109     9.052   2.943   7.552  1.00 48.31   O
ATOM   584  C   SER A 109    10.799   1.536   5.720  1.00 49.24   C
ATOM   585  O   SER A 109    10.870   0.568   4.957  1.00 51.51   O
ATOM   586  N   SER A 112     9.886  -0.863   8.643  1.00 59.10   N
ATOM   587  CA  SER A 112     8.546  -1.374   8.383  1.00 58.71   C
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ATOM    588  CB  SER A 112       7.531  -0.229   8.378  1.00 59.10      C
ATOM    589  OG  SER A 112       6.241  -0.693   8.014  1.00 60.32      O
ATOM    590  C   SER A 112       8.486  -2.096   7.046  1.00 57.85      C
ATOM    591  O   SER A 112       7.722  -3.046   6.879  1.00 58.40      O
ATOM    592  N   GLY A 113       9.295  -1.639   6.096  1.00 56.85      N
ATOM    593  CA  GLY A 113       9.301  -2.245   4.777  1.00 55.00      C
ATOM    594  C   GLY A 113       8.170  -1.691   3.930  1.00 52.98      C
ATOM    595  O   GLY A 113       8.254  -1.656   2.703  1.00 53.44      O
ATOM    596  N   SER A 114       7.106  -1.257   4.595  1.00 50.93      N
ATOM    597  CA  SER A 114       5.940  -0.691   3.929  1.00 49.06      C
ATOM    598  CB  SER A 114       4.834  -0.441   4.955  1.00 49.17      C
ATOM    599  OG  SER A 114       5.283   0.435   5.980  1.00 50.92      O
ATOM    600  C   SER A 114       6.268   0.620   3.222  1.00 46.96      C
ATOM    601  O   SER A 114       7.323   1.211   3.443  1.00 47.26      O
ATOM    602  N   ILE A 115       5.355   1.062   2.364  1.00 44.72      N
ATOM    603  CA  ILE A 115       5.508   2.315   1.636  1.00 42.22      C
ATOM    604  CB  ILE A 115       5.204   2.141   0.129  1.00 43.03      C
ATOM    605  CG1 ILE A 115       6.307   1.316  -0.535  1.00 44.28      C
ATOM    606  CD1 ILE A 115       7.674   1.972  -0.491  1.00 47.16      C
ATOM    607  CG2 ILE A 115       5.102   3.502  -0.552  1.00 43.16      C
ATOM    608  C   ILE A 115       4.518   3.314   2.223  1.00 40.03      C
ATOM    609  O   ILE A 115       3.449   2.932   2.705  1.00 39.69      O
ATOM    610  N   HIS A 116       4.877   4.591   2.187  1.00 36.34      N
ATOM    611  CA  HIS A 116       4.011   5.630   2.718  1.00 34.27      C
ATOM    612  CB  HIS A 116       4.662   6.284   3.937  1.00 35.45      C
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ATOM   613  CG  HIS A 116     4.902   5.340   5.072  1.00 38.20   C
ATOM   614  ND1 HIS A 116     5.654   5.683   6.176  1.00 41.13   N
ATOM   615  CE1 HIS A 116     5.698   4.657   7.008  1.00 45.36   C
ATOM   616  NE2 HIS A 116     5.001   3.664   6.485  1.00 40.45   N
ATOM   617  CD2 HIS A 116     4.492   4.066   5.273  1.00 40.93   C
ATOM   618  C   HIS A 116     3.732   6.690   1.666  1.00 31.61   C
ATOM   619  O   HIS A 116     4.542   6.914   0.768  1.00 30.20   O
ATOM   620  N   SER A 117     2.572   7.325   1.781  1.00 28.75   N
ATOM   621  CA  SER A 117     2.176   8.387   0.872  1.00 28.44   C
ATOM   622  CB  SER A 117     0.785   8.119   0.302  1.00 26.28   C
ATOM   623  OG  SER A 117     0.829   7.005  -0.566  1.00 32.61   O
ATOM   624  C   SER A 117     2.179   9.667   1.692  1.00 26.02   C
ATOM   625  O   SER A 117     1.323   9.860   2.556  1.00 26.95   O
ATOM   626  N   VAL A 118     3.148  10.534   1.419  1.00 24.58   N
ATOM   627  CA  VAL A 118     3.299  11.785   2.161  1.00 22.06   C
ATOM   628  CB  VAL A 118     4.796  12.044   2.497  1.00 23.75   C
ATOM   629  CG1 VAL A 118     4.960  13.338   3.304  1.00 23.80   C
ATOM   630  CG2 VAL A 118     5.349  10.867   3.279  1.00 25.01   C
ATOM   631  C   VAL A 118     2.760  12.991   1.413  1.00 21.13   C
ATOM   632  O   VAL A 118     3.000  13.152   0.224  1.00 21.25   O
ATOM   633  N   SER A 119     2.033  13.840   2.124  1.00 19.39   N
ATOM   634  CA  SER A 119     1.495  15.046   1.522  1.00 19.65   C
ATOM   635  CB  SER A 119    -0.001  14.893   1.247  1.00 18.42   C
ATOM   636  OG  SER A 119    -0.709  14.799   2.467  1.00 16.99   O
ATOM   637  C   SER A 119     1.720  16.222   2.471  1.00 20.44   C
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ATOM    638  O   SER A 119     1.734  16.060   3.694  1.00 20.31   O
ATOM    639  N   VAL A 120     1.927  17.398   1.894  1.00 20.60   N
ATOM    640  CA  VAL A 120     2.111  18.605   2.680  1.00 20.92   C
ATOM    641  CB  VAL A 120     2.911  19.665   1.909  1.00 21.47   C
ATOM    642  CG1 VAL A 120     3.008  20.934   2.747  1.00 21.53   C
ATOM    643  CG2 VAL A 120     4.304  19.123   1.559  1.00 21.20   C
ATOM    644  C   VAL A 120     0.713  19.159   2.942  1.00 19.42   C
ATOM    645  O   VAL A 120     0.072  19.668   2.036  1.00 17.04   O
ATOM    646  N   VAL A 121     0.238  19.040   4.174  1.00 18.30   N
ATOM    647  CA  VAL A 121    -1.090  19.542   4.519  1.00 17.84   C
ATOM    648  CB  VAL A 121    -1.487  19.110   5.942  1.00 17.08   C
ATOM    649  CG1 VAL A 121    -2.886  19.650   6.297  1.00 15.35   C
ATOM    650  CG2 VAL A 121    -1.429  17.607   6.050  1.00 18.80   C
ATOM    651  C   VAL A 121    -1.105  21.069   4.444  1.00 17.06   C
ATOM    652  O   VAL A 121    -1.947  21.667   3.783  1.00 16.89   O
ATOM    653  N   GLU A 122    -0.157  21.687   5.129  1.00 17.44   N
ATOM    654  CA  GLU A 122    -0.048  23.139   5.152  1.00 19.43   C
ATOM    655  CB  GLU A 122    -0.945  23.704   6.254  1.00 17.85   C
ATOM    656  CG  GLU A 122    -0.988  25.207   6.322  1.00 21.33   C
ATOM    657  CD  GLU A 122    -1.991  25.698   7.356  1.00 24.57   C
ATOM    658  OE1 GLU A 122    -1.598  26.454   8.275  1.00 28.32   O
ATOM    659  OE2 GLU A 122    -3.172  25.317   7.254  1.00 20.65   O
ATOM    660  C   GLU A 122     1.405  23.465   5.460  1.00 18.95   C
ATOM    661  O   GLU A 122     2.083  22.676   6.114  1.00 16.79   O
ATOM    662  N   ALA A 123     1.879  24.624   5.008  1.00 21.01   N
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ATOM   663  CA  ALA A 123    3.257  25.003   5.280  1.00 20.93   C
ATOM   664  CB  ALA A 123    4.202  24.042   4.559  1.00 20.51   C
ATOM   665  C   ALA A 123    3.608  26.444   4.913  1.00 21.90   C
ATOM   666  O   ALA A 123    3.009  27.036   4.021  1.00 23.30   O
ATOM   667  N   ASN A 124    4.584  26.989   5.638  1.00 21.77   N
ATOM   668  CA  ASN A 124    5.126  28.333   5.433  1.00 20.98   C
ATOM   669  CB  ASN A 124    4.780  29.253   6.614  1.00 20.38   C
ATOM   670  CG  ASN A 124    5.392  30.644   6.477  1.00 22.16   C
ATOM   671  OD1 ASN A 124    6.495  30.809   5.951  1.00 22.44   O
ATOM   672  ND2 ASN A 124    4.683  31.650   6.971  1.00 26.85   N
ATOM   673  C   ASN A 124    6.621  28.048   5.422  1.00 20.13   C
ATOM   674  O   ASN A 124    7.211  27.813   6.466  1.00 19.09   O
ATOM   675  N   TYR A 125    7.230  28.070   4.244  1.00 20.81   N
ATOM   676  CA  TYR A 125    8.641  27.753   4.109  1.00 22.71   C
ATOM   677  CB  TYR A 125    9.067  27.919   2.648  1.00 21.66   C
ATOM   678  CG  TYR A 125    9.073  29.334   2.135  1.00 29.19   C
ATOM   679  CD1 TYR A 125   10.112  30.200   2.459  1.00 31.37   C
ATOM   680  CE1 TYR A 125   10.161  31.485   1.956  1.00 36.25   C
ATOM   681  CZ  TYR A 125    9.160  31.924   1.115  1.00 36.44   C
ATOM   682  OH  TYR A 125    9.251  33.193   0.597  1.00 39.33   O
ATOM   683  CE2 TYR A 125    8.104  31.089   0.777  1.00 34.28   C
ATOM   684  CD2 TYR A 125    8.067  29.798   1.290  1.00 30.61   C
ATOM   685  C   TYR A 125    9.622  28.453   5.042  1.00 21.07   C
ATOM   686  O   TYR A 125   10.748  27.986   5.203  1.00 22.41   O
ATOM   687  N   ASP A 126    9.211  29.549   5.673  1.00 21.85   N
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ATOM   688  CA  ASP A 126    10.098  30.251   6.603  1.00 22.62   C
ATOM   689  CB  ASP A 126     9.947  31.767   6.497  1.00 23.92   C
ATOM   690  CG  ASP A 126    10.622  32.320   5.297  1.00 24.44   C
ATOM   691  OD1 ASP A 126    11.604  31.692   4.863  1.00 29.05   O
ATOM   692  OD2 ASP A 126    10.179  33.376   4.803  1.00 24.13   O
ATOM   693  C   ASP A 126     9.802  29.884   8.025  1.00 22.45   C
ATOM   694  O   ASP A 126    10.487  30.334   8.946  1.00 22.45   O
ATOM   695  N   GLU A 127     8.767  29.081   8.217  1.00 22.34   N
ATOM   696  CA  GLU A 127     8.389  28.714   9.565  1.00 23.65   C
ATOM   697  CB  GLU A 127     7.182  29.547  10.007  1.00 23.39   C
ATOM   698  CG  GLU A 127     7.483  30.999  10.315  1.00 31.89   C
ATOM   699  CD  GLU A 127     6.262  31.728  10.861  1.00 39.28   C
ATOM   700  OE1 GLU A 127     5.611  31.186  11.783  1.00 42.40   O
ATOM   701  OE2 GLU A 127     5.951  32.840  10.378  1.00 43.22   O
ATOM   702  C   GLU A 127     8.087  27.257   9.836  1.00 21.93   C
ATOM   703  O   GLU A 127     8.627  26.694  10.778  1.00 22.92   O
ATOM   704  N   TYR A 128     7.240  26.637   9.019  1.00 20.93   N
ATOM   705  CA  TYR A 128     6.854  25.263   9.306  1.00 19.08   C
ATOM   706  CB  TYR A 128     5.827  25.276  10.441  1.00 19.89   C
ATOM   707  CG  TYR A 128     4.472  25.797   9.992  1.00 20.24   C
ATOM   708  CD1 TYR A 128     3.520  24.934   9.447  1.00 20.50   C
ATOM   709  CE1 TYR A 128     2.296  25.402   8.981  1.00 21.38   C
ATOM   710  CZ  TYR A 128     2.008  26.754   9.056  1.00 26.85   C
ATOM   711  OH  TYR A 128     0.792  27.207   8.594  1.00 28.12   O
ATOM   712  CE2 TYR A 128     2.934  27.644   9.593  1.00 26.44   C
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ATOM   713  CD2 TYR A 128     4.163  27.157  10.062  1.00 22.61   C
ATOM   714  C   TYR A 128     6.267  24.492   8.140  1.00 19.35   C
ATOM   715  O   TYR A 128     5.911  25.054   7.110  1.00 19.41   O
ATOM   716  N   ALA A 129     6.153  23.183   8.335  1.00 19.30   N
ATOM   717  CA  ALA A 129     5.600  22.290   7.337  1.00 18.44   C
ATOM   718  CB  ALA A 129     6.715  21.673   6.493  1.00 19.76   C
ATOM   719  C   ALA A 129     4.858  21.203   8.079  1.00 19.35   C
ATOM   720  O   ALA A 129     5.440  20.519   8.923  1.00 19.02   O
ATOM   721  N   LEU A 130     3.576  21.052   7.760  1.00 17.69   N
ATOM   722  CA  LEU A 130     2.720  20.050   8.384  1.00 17.03   C
ATOM   723  CB  LEU A 130     1.342  20.655   8.678  1.00 16.93   C
ATOM   724  CG  LEU A 130     0.480  20.216   9.874  1.00 25.96   C
ATOM   725  CD1 LEU A 130    -0.956  20.686   9.609  1.00 21.15   C
ATOM   726  CD2 LEU A 130     0.516  18.687  10.081  1.00 26.45   C
ATOM   727  C   LEU A 130     2.582  18.932   7.354  1.00 17.75   C
ATOM   728  O   LEU A 130     2.005  19.140   6.284  1.00 16.09   O
ATOM   729  N   LEU A 131     3.128  17.754   7.657  1.00 17.47   N
ATOM   730  CA  LEU A 131     3.040  16.640   6.727  1.00 16.94   C
ATOM   731  CB  LEU A 131     4.413  16.030   6.464  1.00 18.54   C
ATOM   732  CG  LEU A 131     5.595  16.886   5.995  1.00 21.25   C
ATOM   733  CD1 LEU A 131     6.622  15.972   5.343  1.00 19.28   C
ATOM   734  CD2 LEU A 131     5.153  17.941   5.021  1.00 20.56   C
ATOM   735  C   LEU A 131     2.122  15.535   7.224  1.00 18.91   C
ATOM   736  O   LEU A 131     2.019  15.274   8.429  1.00 18.27   O
ATOM   737  N   PHE A 132     1.444  14.892   6.286  1.00 18.52   N
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ATOM   738  CA  PHE A 132     0.569  13.784   6.628  1.00 20.01   C
ATOM   739  CB  PHE A 132    -0.876  14.046   6.214  1.00 20.97   C
ATOM   740  CG  PHE A 132    -1.786  12.870   6.461  1.00 25.43   C
ATOM   741  CD1 PHE A 132    -2.106  12.480   7.763  1.00 29.99   C
ATOM   742  CE1 PHE A 132    -2.904  11.359   8.003  1.00 30.06   C
ATOM   743  CZ  PHE A 132    -3.391  10.616   6.933  1.00 29.29   C
ATOM   744  CE2 PHE A 132    -3.083  10.993   5.629  1.00 30.24   C
ATOM   745  CD2 PHE A 132    -2.282  12.119   5.397  1.00 27.73   C
ATOM   746  C   PHE A 132     1.086  12.574   5.880  1.00 20.33   C
ATOM   747  O   PHE A 132     1.369  12.650   4.694  1.00 19.14   O
ATOM   748  N   SER A 133     1.213  11.460   6.582  1.00 21.25   N
ATOM   749  CA  SER A 133     1.698  10.238   5.973  1.00 24.44   C
ATOM   750  CB  SER A 133     3.077   9.916   6.536  1.00 22.99   C
ATOM   751  OG  SER A 133     3.655   8.799   5.894  1.00 35.35   O
ATOM   752  C   SER A 133     0.724   9.092   6.247  1.00 25.26   C
ATOM   753  O   SER A 133     0.270   8.895   7.375  1.00 24.85   O
ATOM   754  N   ARG A 134     0.381   8.354   5.204  1.00 28.87   N
ATOM   755  CA  ARG A 134    -0.525   7.231   5.352  1.00 32.47   C
ATOM   756  CB  ARG A 134    -1.888   7.530   4.701  1.00 32.31   C
ATOM   757  CG  ARG A 134    -1.834   8.152   3.316  1.00 37.53   C
ATOM   758  CD  ARG A 134    -3.169   8.816   2.978  1.00 43.53   C
ATOM   759  NE  ARG A 134    -3.169   9.553   1.712  1.00 44.76   N
ATOM   760  CZ  ARG A 134    -3.163   8.983   0.511  1.00 44.99   C
ATOM   761  NH1 ARG A 134    -3.147   7.661   0.405  1.00 46.67   N
ATOM   762  NH2 ARG A 134    -3.215   9.732  -0.587  1.00 42.69   N
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ATOM   763  C   ARG A 134   0.105   5.994   4.746  1.00 35.05   C
ATOM   764  O   ARG A 134   0.695   6.038   3.661  1.00 32.09   O
ATOM   765  N   GLY A 135   0.003   4.897   5.484  1.00 38.13   N
ATOM   766  CA  GLY A 135   0.556   3.640   5.033  1.00 43.65   C
ATOM   767  C   GLY A 135  -0.446   2.537   5.290  1.00 48.01   C
ATOM   768  O   GLY A 135  -1.472   2.760   5.937  1.00 47.49   O
ATOM   769  N   THR A 136  -0.162   1.344   4.783  1.00 51.73   N
ATOM   770  CA  THR A 136  -1.070   0.219   4.969  1.00 55.59   C
ATOM   771  CB  THR A 136  -2.315   0.358   4.067  1.00 55.84   C
ATOM   772  OG1 THR A 136  -2.924   1.634   4.284  1.00 58.78   O
ATOM   773  CG2 THR A 136  -3.331  -0.725   4.386  1.00 56.76   C
ATOM   774  C   THR A 136  -0.382  -1.094   4.636  1.00 56.89   C
ATOM   775  O   THR A 136  -0.138  -1.392   3.470  1.00 57.01   O
ATOM   776  N   LYS A 137  -0.075  -1.875   5.667  1.00 59.28   N
ATOM   777  CA  LYS A 137   0.580  -3.162   5.483  1.00 61.56   C
ATOM   778  CB  LYS A 137   0.971  -3.763   6.834  1.00 61.96   C
ATOM   779  CG  LYS A 137   1.531  -2.777   7.849  1.00 63.75   C
ATOM   780  CD  LYS A 137   1.803  -3.478   9.176  1.00 66.26   C
ATOM   781  CE  LYS A 137   2.248  -2.499  10.252  1.00 66.38   C
ATOM   782  NZ  LYS A 137   2.545  -3.196  11.536  1.00 66.02   N
ATOM   783  C   LYS A 137  -0.411  -4.096   4.800  1.00 62.36   C
ATOM   784  O   LYS A 137  -0.041  -5.159   4.300  1.00 63.04   O
ATOM   785  N   GLY A 138  -1.678  -3.691   4.791  1.00 63.05   N
ATOM   786  CA  GLY A 138  -2.714  -4.501   4.176  1.00 63.35   C
ATOM   787  C   GLY A 138  -4.104  -4.069   4.610  1.00 63.61   C
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ATOM   788  O   GLY A 138    -4.231  -3.171   5.435  1.00 64.06   O
ATOM   789  N   PRO A 139    -5.168  -4.690   4.079  1.00 63.70   N
ATOM   790  CA  PRO A 139    -6.555  -4.348   4.430  1.00 63.74   C
ATOM   791  CB  PRO A 139    -7.369  -5.364   3.639  1.00 63.65   C
ATOM   792  CG  PRO A 139    -6.503  -5.603   2.422  1.00 64.02   C
ATOM   793  CD  PRO A 139    -5.125  -5.708   3.016  1.00 63.81   C
ATOM   794  C   PRO A 139    -6.833  -4.419   5.935  1.00 63.55   C
ATOM   795  O   PRO A 139    -7.057  -5.490   6.494  1.00 63.71   O
ATOM   796  N   GLY A 140    -6.822  -3.261   6.584  1.00 63.03   N
ATOM   797  CA  GLY A 140    -7.059  -3.199   8.018  1.00 62.01   C
ATOM   798  C   GLY A 140    -5.787  -2.914   8.800  1.00 60.77   C
ATOM   799  O   GLY A 140    -5.827  -2.660  10.004  1.00 60.90   O
ATOM   800  N   GLN A 141    -4.653  -2.947   8.112  1.00 59.05   N
ATOM   801  CA  GLN A 141    -3.373  -2.694   8.752  1.00 57.46   C
ATOM   802  CB  GLN A 141    -2.398  -3.809   8.370  1.00 57.71   C
ATOM   803  CG  GLN A 141    -3.090  -5.178   8.473  1.00 58.74   C
ATOM   804  CD  GLN A 141    -2.189  -6.355   8.151  1.00 59.31   C
ATOM   805  OE1 GLN A 141    -1.552  -6.402   7.093  1.00 58.75   O
ATOM   806  NE2 GLN A 141    -2.141  -7.323   9.063  1.00 59.08   N
ATOM   807  C   GLN A 141    -2.882  -1.323   8.304  1.00 55.66   C
ATOM   808  O   GLN A 141    -1.699  -1.125   8.029  1.00 55.85   O
ATOM   809  N   ASN A 142    -3.825  -0.383   8.247  1.00 53.33   N
ATOM   810  CA  ASN A 142    -3.570   0.998   7.836  1.00 51.55   C
ATOM   811  CB  ASN A 142    -4.857   1.649   7.316  1.00 51.60   C
ATOM   812  CG  ASN A 142    -5.936   0.642   6.973  1.00 53.89   C
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ATOM    813  OD1 ASN A 142     -7.123   0.905   7.172  1.00 53.86   O
ATOM    814  ND2 ASN A 142     -5.534  -0.511   6.442  1.00 58.03   N
ATOM    815  C   ASN A 142     -3.069   1.843   9.005  1.00 49.32   C
ATOM    816  O   ASN A 142     -3.655   1.828  10.081  1.00 49.92   O
ATOM    817  N   PHE A 143     -1.995   2.593   8.787  1.00 46.30   N
ATOM    818  CA  PHE A 143     -1.459   3.458   9.829  1.00 43.59   C
ATOM    819  CB  PHE A 143     -0.089   2.953  10.285  1.00 44.54   C
ATOM    820  CG  PHE A 143      1.056   3.775   9.777  1.00 48.28   C
ATOM    821  CD1 PHE A 143      1.621   4.764  10.573  1.00 51.58   C
ATOM    822  CE1 PHE A 143      2.650   5.570  10.093  1.00 54.13   C
ATOM    823  CZ  PHE A 143      3.121   5.388   8.807  1.00 52.35   C
ATOM    824  CE2 PHE A 143      2.566   4.400   8.001  1.00 53.51   C
ATOM    825  CD2 PHE A 143      1.538   3.597   8.490  1.00 50.84   C
ATOM    826  C   PHE A 143     -1.350   4.886   9.292  1.00 40.43   C
ATOM    827  O   PHE A 143     -1.134   5.094   8.103  1.00 37.35   O
ATOM    828  N   ARG A 144     -1.509   5.864  10.176  1.00 37.08   N
ATOM    829  CA  ARG A 144     -1.441   7.267   9.796  1.00 34.89   C
ATOM    830  CB  ARG A 144     -2.833   7.897   9.918  1.00 35.73   C
ATOM    831  CG  ARG A 144     -3.816   7.364   8.872  1.00 39.13   C
ATOM    832  CD  ARG A 144     -5.240   7.894   9.029  1.00 46.28   C
ATOM    833  NE  ARG A 144     -6.006   7.160  10.035  1.00 49.14   N
ATOM    834  CZ  ARG A 144     -5.866   7.314  11.348  1.00 52.48   C
ATOM    835  NH1 ARG A 144     -4.988   8.182  11.829  1.00 54.40   N
ATOM    836  NH2 ARG A 144     -6.608   6.599  12.183  1.00 54.82   N
ATOM    837  C   ARG A 144     -0.435   8.017  10.666  1.00 32.66   C
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ATOM	838	O	ARG	A	144	-0.278	7.712	11.846	1.00	30.70	O
ATOM	839	N	MET	A	145	0.259	8.988	10.084	1.00	28.76	N
ATOM	840	CA	MET	A	145	1.232	9.749	10.850	1.00	27.41	C
ATOM	841	CB	MET	A	145	2.612	9.099	10.747	1.00	27.81	C
ATOM	842	CG	MET	A	145	3.715	9.914	11.408	1.00	30.09	C
ATOM	843	SD	MET	A	145	5.311	9.070	11.470	1.00	35.29	S
ATOM	844	CE	MET	A	145	5.842	9.159	9.789	1.00	30.22	C
ATOM	845	C	MET	A	145	1.336	11.214	10.452	1.00	26.47	C
ATOM	846	O	MET	A	145	1.565	11.543	9.285	1.00	27.37	O
ATOM	847	N	ALA	A	146	1.178	12.086	11.442	1.00	24.27	N
ATOM	848	CA	ALA	A	146	1.267	13.527	11.242	1.00	22.72	C
ATOM	849	CB	ALA	A	146	0.161	14.223	12.004	1.00	23.19	C
ATOM	850	C	ALA	A	146	2.633	13.998	11.743	1.00	21.85	C
ATOM	851	O	ALA	A	146	3.047	13.670	12.860	1.00	20.76	O
ATOM	852	N	THR	A	147	3.332	14.765	10.914	1.00	21.71	N
ATOM	853	CA	THR	A	147	4.652	15.261	11.281	1.00	20.82	C
ATOM	854	CB	THR	A	147	5.747	14.641	10.388	1.00	22.25	C
ATOM	855	OG1	THR	A	147	5.541	13.224	10.287	1.00	23.42	O
ATOM	856	CG2	THR	A	147	7.125	14.910	10.977	1.00	22.09	C
ATOM	857	C	THR	A	147	4.738	16.776	11.143	1.00	20.34	C
ATOM	858	O	THR	A	147	4.339	17.342	10.125	1.00	19.27	O
ATOM	859	N	LEU	A	148	5.269	17.430	12.170	1.00	19.28	N
ATOM	860	CA	LEU	A	148	5.409	18.878	12.137	1.00	19.58	C
ATOM	861	CB	LEU	A	148	4.675	19.516	13.317	1.00	21.33	C
ATOM	862	CG	LEU	A	148	4.786	21.045	13.445	1.00	20.43	C

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ATOM   863  CD1 LEU A 148    4.224  21.747  12.219  1.00 22.47   C
ATOM   864  CD2 LEU A 148    4.026  21.472  14.671  1.00 24.32   C
ATOM   865  C   LEU A 148    6.877  19.289  12.155  1.00 19.02   C
ATOM   866  O   LEU A 148    7.605  19.046  13.127  1.00 18.11   O
ATOM   867  N   TYR A 149    7.308  19.887  11.051  1.00 19.53   N
ATOM   868  CA  TYR A 149    8.671  20.378  10.923  1.00 19.40   C
ATOM   869  CB  TYR A 149    9.206  20.132   9.518  1.00 19.80   C
ATOM   870  CG  TYR A 149    9.662  18.712   9.281  1.00 22.86   C
ATOM   871  CD1 TYR A 149   10.829  18.219   9.873  1.00 24.22   C
ATOM   872  CE1 TYR A 149   11.236  16.889   9.672  1.00 25.00   C
ATOM   873  CZ  TYR A 149   10.464  16.058   8.877  1.00 26.70   C
ATOM   874  OH  TYR A 149   10.819  14.742   8.693  1.00 36.47   O
ATOM   875  CE2 TYR A 149    9.305  16.531   8.280  1.00 27.17   C
ATOM   876  CD2 TYR A 149    8.910  17.844   8.482  1.00 25.06   C
ATOM   877  C   TYR A 149    8.658  21.872  11.208  1.00 19.85   C
ATOM   878  O   TYR A 149    7.672  22.562  10.938  1.00 18.56   O
ATOM   879  N   SER A 150    9.764  22.363  11.750  1.00 19.94   N
ATOM   880  CA  SER A 150    9.903  23.764  12.102  1.00 20.50   C
ATOM   881  CB  SER A 150    9.704  23.915  13.615  1.00 21.21   C
ATOM   882  OG  SER A 150    9.899  25.250  14.047  1.00 22.73   O
ATOM   883  C   SER A 150   11.282  24.302  11.701  1.00 20.46   C
ATOM   884  O   SER A 150   12.292  23.593  11.778  1.00 18.66   O
ATOM   885  N   ARG A 151   11.319  25.556  11.261  1.00 21.36   N
ATOM   886  CA  ARG A 151   12.587  26.164  10.878  1.00 22.36   C
ATOM   887  CB  ARG A 151   12.355  27.467  10.102  1.00 21.14   C
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ATOM    888  CG  ARG A 151      11.888  27.250   8.673  1.00 22.84    C
ATOM    889  CD  ARG A 151      12.914  26.442   7.873  1.00 19.77    C
ATOM    890  NE  ARG A 151      12.582  26.404   6.448  1.00 24.92    N
ATOM    891  CZ  ARG A 151      13.337  25.841   5.511  1.00 20.64    C
ATOM    892  NH1 ARG A 151      14.479  25.258   5.836  1.00 22.01    N
ATOM    893  NH2 ARG A 151      12.948  25.869   4.243  1.00 21.20    N
ATOM    894  C   ARG A 151      13.387  26.437  12.145  1.00 23.99    C
ATOM    895  O   ARG A 151      14.615  26.506  12.115  1.00 24.51    O
ATOM    896  N   THR A 152      12.676  26.578  13.258  1.00 24.32    N
ATOM    897  CA  THR A 152      13.305  26.832  14.548  1.00 26.33    C
ATOM    898  CB  THR A 152      12.765  28.120  15.185  1.00 27.25    C
ATOM    899  OG1 THR A 152      11.347  27.997  15.378  1.00 25.22    O
ATOM    900  CG2 THR A 152      13.063  29.327  14.295  1.00 25.83    C
ATOM    901  C   THR A 152      13.047  25.687  15.528  1.00 27.69    C
ATOM    902  O   THR A 152      12.090  24.928  15.372  1.00 26.48    O
ATOM    903  N   GLN A 153      13.906  25.576  16.536  1.00 28.98    N
ATOM    904  CA  GLN A 153      13.776  24.538  17.551  1.00 30.08    C
ATOM    905  CB  GLN A 153      15.090  24.396  18.329  1.00 29.88    C
ATOM    906  CG  GLN A 153      16.182  23.642  17.582  1.00 32.02    C
ATOM    907  CD  GLN A 153      17.493  23.587  18.347  1.00 35.05    C
ATOM    908  OE1 GLN A 153      18.400  24.373  18.099  1.00 36.34    O
ATOM    909  NE2 GLN A 153      17.591  22.658  19.289  1.00 36.94    N
ATOM    910  C   GLN A 153      12.629  24.848  18.513  1.00 30.99    C
ATOM    911  O   GLN A 153      12.158  23.972  19.236  1.00 31.14    O
ATOM    912  N   THR A 154      12.187  26.100  18.517  1.00 33.09    N
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ATOM   913  CA  THR A 154    11.095  26.526  19.382  1.00 35.59   C
ATOM   914  CB  THR A 154    11.334  27.944  19.923  1.00 35.74   C
ATOM   915  OG1 THR A 154    12.404  27.905  20.870  1.00 40.23   O
ATOM   916  CG2 THR A 154    10.090  28.481  20.608  1.00 36.81   C
ATOM   917  C   THR A 154     9.788  26.492  18.611  1.00 36.05   C
ATOM   918  O   THR A 154     9.737  26.835  17.431  1.00 36.13   O
ATOM   919  N   LEU A 155     8.724  26.083  19.288  1.00 37.13   N
ATOM   920  CA  LEU A 155     7.422  25.975  18.648  1.00 38.42   C
ATOM   921  CB  LEU A 155     6.965  24.516  18.714  1.00 37.88   C
ATOM   922  CG  LEU A 155     6.062  23.916  17.638  1.00 39.67   C
ATOM   923  CD1 LEU A 155     6.706  24.033  16.262  1.00 35.31   C
ATOM   924  CD2 LEU A 155     5.816  22.456  17.984  1.00 38.75   C
ATOM   925  C   LEU A 155     6.405  26.878  19.337  1.00 39.23   C
ATOM   926  O   LEU A 155     6.264  26.841  20.561  1.00 39.64   O
ATOM   927  N   LYS A 156     5.708  27.697  18.553  1.00 39.22   N
ATOM   928  CA  LYS A 156     4.690  28.589  19.102  1.00 39.41   C
ATOM   929  CB  LYS A 156     4.362  29.716  18.120  1.00 39.99   C
ATOM   930  CG  LYS A 156     5.469  30.741  17.955  1.00 41.50   C
ATOM   931  CD  LYS A 156     5.064  31.818  16.971  1.00 44.94   C
ATOM   932  CE  LYS A 156     6.165  32.854  16.791  1.00 46.38   C
ATOM   933  NZ  LYS A 156     5.773  33.857  15.764  1.00 47.77   N
ATOM   934  C   LYS A 156     3.426  27.798  19.398  1.00 39.33   C
ATOM   935  O   LYS A 156     3.010  26.953  18.602  1.00 37.57   O
ATOM   936  N   ASP A 157     2.815  28.082  20.544  1.00 39.71   N
ATOM   937  CA  ASP A 157     1.603  27.389  20.961  1.00 39.53   C
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ATOM   938  CB  ASP A 157   1.028  28.063  22.208  1.00 41.01   C
ATOM   939  CG  ASP A 157   2.033  28.131  23.343  1.00 43.20   C
ATOM   940  OD1 ASP A 157   3.036  28.863  23.205  1.00 47.67   O
ATOM   941  OD2 ASP A 157   1.828  27.445  24.368  1.00 46.90   O
ATOM   942  C   ASP A 157   0.538  27.310  19.868  1.00 38.74   C
ATOM   943  O   ASP A 157  -0.132  26.287  19.720  1.00 37.95   O
ATOM   944  N   GLU A 158   0.384  28.383  19.101  1.00 37.72   N
ATOM   945  CA  GLU A 158  -0.609  28.398  18.033  1.00 37.05   C
ATOM   946  CB  GLU A 158  -0.614  29.752  17.321  1.00 37.76   C
ATOM   947  CG  GLU A 158  -0.463  30.954  18.243  1.00 41.78   C
ATOM   948  CD  GLU A 158   0.977  31.198  18.656  1.00 46.94   C
ATOM   949  OE1 GLU A 158   1.798  31.525  17.772  1.00 50.90   O
ATOM   950  OE2 GLU A 158   1.292  31.063  19.859  1.00 49.28   O
ATOM   951  C   GLU A 158  -0.294  27.301  17.024  1.00 35.99   C
ATOM   952  O   GLU A 158  -1.187  26.761  16.378  1.00 34.01   O
ATOM   953  N   LEU A 159   0.990  26.981  16.895  1.00 35.06   N
ATOM   954  CA  LEU A 159   1.437  25.948  15.969  1.00 32.93   C
ATOM   955  CB  LEU A 159   2.924  26.130  15.666  1.00 33.58   C
ATOM   956  CG  LEU A 159   3.403  25.650  14.295  1.00 32.35   C
ATOM   957  CD1 LEU A 159   2.543  26.264  13.202  1.00 35.68   C
ATOM   958  CD2 LEU A 159   4.857  26.040  14.104  1.00 33.17   C
ATOM   959  C   LEU A 159   1.182  24.588  16.600  1.00 31.25   C
ATOM   960  O   LEU A 159   0.851  23.622  15.914  1.00 29.46   O
ATOM   961  N   LYS A 160   1.330  24.518  17.918  1.00 29.57   N
ATOM   962  CA  LYS A 160   1.077  23.276  18.633  1.00 29.07   C
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ATOM   963  CB  LYS A 160    1.448  23.410  20.114  1.00 29.49   C
ATOM   964  CG  LYS A 160    2.938  23.535  20.410  1.00 31.30   C
ATOM   965  CD  LYS A 160    3.195  23.359  21.902  1.00 32.92   C
ATOM   966  CE  LYS A 160    4.671  23.470  22.231  1.00 39.23   C
ATOM   967  NZ  LYS A 160    4.974  23.172  23.664  1.00 42.27   N
ATOM   968  C   LYS A 160   -0.408  22.937  18.514  1.00 28.08   C
ATOM   969  O   LYS A 160   -0.779  21.773  18.330  1.00 27.38   O
ATOM   970  N   GLU A 161   -1.254  23.959  18.605  1.00 27.07   N
ATOM   971  CA  GLU A 161   -2.695  23.762  18.517  1.00 27.31   C
ATOM   972  CB  GLU A 161   -3.439  25.064  18.830  1.00 28.93   C
ATOM   973  CG  GLU A 161   -3.159  25.662  20.201  1.00 32.16   C
ATOM   974  CD  GLU A 161   -4.254  26.629  20.639  1.00 38.78   C
ATOM   975  OE1 GLU A 161   -4.944  27.191  19.758  1.00 39.33   O
ATOM   976  OE2 GLU A 161   -4.422  26.831  21.864  1.00 43.12   O
ATOM   977  C   GLU A 161   -3.100  23.270  17.134  1.00 26.18   C
ATOM   978  O   GLU A 161   -3.950  22.383  16.992  1.00 26.11   O
ATOM   979  N   LYS A 162   -2.492  23.848  16.109  1.00 24.62   N
ATOM   980  CA  LYS A 162   -2.794  23.440  14.742  1.00 24.49   C
ATOM   981  CB  LYS A 162   -1.989  24.293  13.751  1.00 24.75   C
ATOM   982  CG  LYS A 162   -2.266  23.987  12.292  1.00 26.25   C
ATOM   983  CD  LYS A 162   -1.240  24.660  11.369  1.00 30.87   C
ATOM   984  CE  LYS A 162   -1.321  26.180  11.412  1.00 29.17   C
ATOM   985  NZ  LYS A 162   -2.572  26.713  10.801  1.00 30.29   N
ATOM   986  C   LYS A 162   -2.454  21.957  14.564  1.00 23.72   C
ATOM   987  O   LYS A 162   -3.219  21.198  13.973  1.00 21.42   O
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ATOM   988  N   PHE A 163   -1.304  21.545  15.090  1.00 23.78   N
ATOM   989  CA  PHE A 163   -0.867  20.155  14.974  1.00 23.17   C
ATOM   990  CB  PHE A 163    0.539  20.007  15.560  1.00 21.98   C
ATOM   991  CG  PHE A 163    1.159  18.664  15.306  1.00 21.44   C
ATOM   992  CD1 PHE A 163    1.376  18.219  14.008  1.00 17.30   C
ATOM   993  CE1 PHE A 163    1.953  16.985  13.772  1.00 18.89   C
ATOM   994  CZ  PHE A 163    2.323  16.173  14.841  1.00 22.89   C
ATOM   995  CE2 PHE A 163    2.111  16.602  16.138  1.00 23.52   C
ATOM   996  CD2 PHE A 163    1.531  17.844  16.367  1.00 21.36   C
ATOM   997  C   PHE A 163   -1.842  19.218  15.699  1.00 23.35   C
ATOM   998  O   PHE A 163   -2.291  18.213  15.139  1.00 24.15   O
ATOM   999  N   THR A 164   -2.161  19.550  16.946  1.00 26.31   N
ATOM   1000 CA  THR A 164   -3.097  18.761  17.743  1.00 27.06   C
ATOM   1001 CB  THR A 164   -3.287  19.389  19.139  1.00 26.63   C
ATOM   1002 OG1 THR A 164   -2.023  19.415  19.817  1.00 29.13   O
ATOM   1003 CG2 THR A 164   -4.288  18.585  19.969  1.00 28.94   C
ATOM   1004 C   THR A 164   -4.447  18.681  17.034  1.00 26.30   C
ATOM   1005 O   THR A 164   -5.045  17.609  16.937  1.00 27.05   O
ATOM   1006 N   THR A 165   -4.917  19.817  16.534  1.00 26.32   N
ATOM   1007 CA  THR A 165   -6.191  19.865  15.813  1.00 28.31   C
ATOM   1008 CB  THR A 165   -6.511  21.294  15.320  1.00 27.79   C
ATOM   1009 OG1 THR A 165   -6.587  22.184  16.441  1.00 31.94   O
ATOM   1010 CG2 THR A 165   -7.834  21.316  14.579  1.00 31.80   C
ATOM   1011 C   THR A 165   -6.178  18.947  14.585  1.00 26.45   C
ATOM   1012 O   THR A 165   -7.073  18.108  14.406  1.00 25.73   O
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ATOM   1013  N   PHE A 166   -5.172  19.110  13.731  1.00 25.04   N
ATOM   1014  CA  PHE A 166   -5.087  18.278  12.540  1.00 23.74   C
ATOM   1015  CB  PHE A 166   -3.878  18.635  11.684  1.00 22.45   C
ATOM   1016  CG  PHE A 166   -3.663  17.672  10.542  1.00 23.00   C
ATOM   1017  CD1 PHE A 166   -4.578  17.605   9.492  1.00 17.54   C
ATOM   1018  CE1 PHE A 166   -4.408  16.709   8.451  1.00 15.87   C
ATOM   1019  CZ  PHE A 166   -3.305  15.859   8.437  1.00 15.82   C
ATOM   1020  CE2 PHE A 166   -2.380  15.912   9.481  1.00 20.54   C
ATOM   1021  CD2 PHE A 166   -2.564  16.818  10.524  1.00 23.28   C
ATOM   1022  C   PHE A 166   -4.986  16.808  12.909  1.00 23.55   C
ATOM   1023  O   PHE A 166   -5.601  15.954  12.266  1.00 24.15   O
ATOM   1024  N   SER A 167   -4.196  16.522  13.937  1.00 24.73   N
ATOM   1025  CA  SER A 167   -3.994  15.156  14.392  1.00 25.60   C
ATOM   1026  CB  SER A 167   -2.978  15.132  15.541  1.00 26.04   C
ATOM   1027  OG  SER A 167   -1.734  15.675  15.130  1.00 23.06   O
ATOM   1028  C   SER A 167   -5.299  14.516  14.853  1.00 27.30   C
ATOM   1029  O   SER A 167   -5.573  13.349  14.561  1.00 27.39   O
ATOM   1030  N   LYS A 168   -6.105  15.279  15.580  1.00 28.09   N
ATOM   1031  CA  LYS A 168   -7.364  14.753  16.070  1.00 28.24   C
ATOM   1032  CB  LYS A 168   -7.915  15.668  17.167  1.00 28.85   C
ATOM   1033  CG  LYS A 168   -7.015  15.656  18.404  1.00 29.37   C
ATOM   1034  CD  LYS A 168   -7.628  16.376  19.581  1.00 31.71   C
ATOM   1035  CE  LYS A 168   -6.778  16.162  20.821  1.00 31.05   C
ATOM   1036  NZ  LYS A 168   -7.424  16.689  22.059  1.00 33.19   N
ATOM   1037  C   LYS A 168   -8.346  14.587  14.924  1.00 28.80   C
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ATOM   1038  O   LYS A 168    -9.116  13.632  14.896  1.00 28.47   O
ATOM   1039  N   ALA A 169    -8.292  15.499  13.959  1.00 29.16   N
ATOM   1040  CA  ALA A 169    -9.172  15.430  12.798  1.00 30.36   C
ATOM   1041  CB  ALA A 169    -9.021  16.681  11.949  1.00 29.30   C
ATOM   1042  C   ALA A 169    -8.819  14.194  11.978  1.00 31.34   C
ATOM   1043  O   ALA A 169    -9.472  13.880  10.988  1.00 32.11   O
ATOM   1044  N   GLN A 170    -7.774  13.493  12.394  1.00 32.26   N
ATOM   1045  CA  GLN A 170    -7.347  12.295  11.689  1.00 32.22   C
ATOM   1046  CB  GLN A 170    -5.871  12.412  11.301  1.00 31.66   C
ATOM   1047  CG  GLN A 170    -5.570  13.544  10.319  1.00 31.19   C
ATOM   1048  CD  GLN A 170    -6.351  13.407   9.018  1.00 30.95   C
ATOM   1049  OE1 GLN A 170    -6.326  12.355   8.383  1.00 26.84   O
ATOM   1050  NE2 GLN A 170    -7.042  14.470   8.618  1.00 28.03   N
ATOM   1051  C   GLN A 170    -7.570  11.048  12.539  1.00 33.04   C
ATOM   1052  O   GLN A 170    -7.102   9.961  12.203  1.00 33.24   O
ATOM   1053  N   GLY A 171    -8.291  11.211  13.641  1.00 34.12   N
ATOM   1054  CA  GLY A 171    -8.565  10.082  14.509  1.00 36.19   C
ATOM   1055  C   GLY A 171    -7.421   9.742  15.445  1.00 37.27   C
ATOM   1056  O   GLY A 171    -7.243   8.584  15.823  1.00 37.31   O
ATOM   1057  N   LEU A 172    -6.633  10.747  15.812  1.00 38.22   N
ATOM   1058  CA  LEU A 172    -5.518  10.537  16.721  1.00 38.52   C
ATOM   1059  CB  LEU A 172    -4.226  11.119  16.135  1.00 37.99   C
ATOM   1060  CG  LEU A 172    -3.719  10.490  14.825  1.00 38.07   C
ATOM   1061  CD1 LEU A 172    -2.419  11.158  14.387  1.00 34.97   C
ATOM   1062  CD2 LEU A 172    -3.496   8.998  15.018  1.00 38.27   C
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ATOM   1063  C   LEU A 172   -5.843  11.204  18.049  1.00 39.21   C
ATOM   1064  O   LEU A 172   -6.293  12.348  18.090  1.00 40.20   O
ATOM   1065  N   THR A 173   -5.627  10.480  19.138  1.00 39.94   N
ATOM   1066  CA  THR A 173   -5.893  11.011  20.467  1.00 40.68   C
ATOM   1067  CB  THR A 173   -6.269   9.884  21.436  1.00 40.28   C
ATOM   1068  OG1 THR A 173   -5.329   8.813  21.305  1.00 41.86   O
ATOM   1069  CG2 THR A 173   -7.666   9.370  21.133  1.00 42.41   C
ATOM   1070  C   THR A 173   -4.667  11.738  21.003  1.00 40.29   C
ATOM   1071  O   THR A 173   -3.575  11.623  20.446  1.00 39.42   O
ATOM   1072  N   GLU A 174   -4.853  12.487  22.085  1.00 41.07   N
ATOM   1073  CA  GLU A 174   -3.757  13.227  22.690  1.00 41.95   C
ATOM   1074  CB  GLU A 174   -4.264  14.047  23.877  1.00 42.62   C
ATOM   1075  CG  GLU A 174   -5.227  15.138  23.465  1.00 46.48   C
ATOM   1076  CD  GLU A 174   -5.351  16.234  24.497  1.00 52.49   C
ATOM   1077  OE1 GLU A 174   -5.735  15.926  25.647  1.00 55.08   O
ATOM   1078  OE2 GLU A 174   -5.063  17.404  24.154  1.00 53.65   O
ATOM   1079  C   GLU A 174   -2.621  12.311  23.128  1.00 41.47   C
ATOM   1080  O   GLU A 174   -1.451  12.688  23.063  1.00 41.74   O
ATOM   1081  N   GLU A 175   -2.964  11.107  23.569  1.00 40.71   N
ATOM   1082  CA  GLU A 175   -1.950  10.149  23.985  1.00 41.13   C
ATOM   1083  CB  GLU A 175   -2.612   8.908  24.580  1.00 41.37   C
ATOM   1084  CG  GLU A 175   -3.614   8.278  23.631  1.00 47.30   C
ATOM   1085  CD  GLU A 175   -4.310   7.065  24.212  1.00 54.26   C
ATOM   1086  OE1 GLU A 175   -4.885   7.182  25.316  1.00 55.90   O
ATOM   1087  OE2 GLU A 175   -4.287   5.998  23.556  1.00 56.76   O
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ATOM	1088	C	GLU	A	175	-1.127	9.760	22.759	1.00 39.75	C
ATOM	1089	O	GLU	A	175	-0.008	9.256	22.878	1.00 40.30	O
ATOM	1090	N	ASP	A	176	-1.688	9.995	21.578	1.00 37.64	N
ATOM	1091	CA	ASP	A	176	-1.001	9.678	20.328	1.00 36.84	C
ATOM	1092	CB	ASP	A	176	-1.994	9.192	19.265	1.00 37.43	C
ATOM	1093	CG	ASP	A	176	-2.510	7.795	19.532	1.00 39.43	C
ATOM	1094	OD1	ASP	A	176	-1.680	6.870	19.681	1.00 42.70	O
ATOM	1095	OD2	ASP	A	176	-3.746	7.621	19.577	1.00 40.96	O
ATOM	1096	C	ASP	A	176	-0.247	10.884	19.767	1.00 34.37	C
ATOM	1097	O	ASP	A	176	0.384	10.787	18.723	1.00 33.91	O
ATOM	1098	N	ILE	A	177	-0.314	12.010	20.466	1.00 32.64	N
ATOM	1099	CA	ILE	A	177	0.340	13.237	20.020	1.00 30.44	C
ATOM	1100	CB	ILE	A	177	-0.682	14.392	19.970	1.00 30.45	C
ATOM	1101	CG1	ILE	A	177	-1.812	14.034	18.994	1.00 29.49	C
ATOM	1102	CD1	ILE	A	177	-3.029	14.940	19.082	1.00 31.49	C
ATOM	1103	CG2	ILE	A	177	0.008	15.688	19.568	1.00 29.62	C
ATOM	1104	C	ILE	A	177	1.499	13.633	20.933	1.00 29.89	C
ATOM	1105	O	ILE	A	177	1.359	13.647	22.154	1.00 28.34	O
ATOM	1106	N	VAL	A	178	2.645	13.960	20.342	1.00 28.91	N
ATOM	1107	CA	VAL	A	178	3.803	14.337	21.142	1.00 28.66	C
ATOM	1108	CB	VAL	A	178	4.711	13.111	21.412	1.00 28.61	C
ATOM	1109	CG1	VAL	A	178	5.249	12.566	20.101	1.00 30.80	C
ATOM	1110	CG2	VAL	A	178	5.862	13.501	22.331	1.00 30.83	C
ATOM	1111	C	VAL	A	178	4.663	15.430	20.522	1.00 27.43	C
ATOM	1112	O	VAL	A	178	4.968	15.402	19.332	1.00 26.89	O

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ATOM   1113  N   PHE A 179   5.043  16.402  21.339  1.00 27.15   N
ATOM   1114  CA  PHE A 179   5.905  17.478  20.881  1.00 27.17   C
ATOM   1115  CB  PHE A 179   5.451  18.813  21.477  1.00 26.48   C
ATOM   1116  CG  PHE A 179   4.115  19.257  20.961  1.00 27.02   C
ATOM   1117  CD1 PHE A 179   3.979  19.704  19.650  1.00 26.14   C
ATOM   1118  CE1 PHE A 179   2.724  20.041  19.136  1.00 28.69   C
ATOM   1119  CZ  PHE A 179   1.593  19.930  19.939  1.00 27.93   C
ATOM   1120  CE2 PHE A 179   1.717  19.488  21.250  1.00 27.21   C
ATOM   1121  CD2 PHE A 179   2.974  19.156  21.755  1.00 30.11   C
ATOM   1122  C   PHE A 179   7.306  17.088  21.323  1.00 27.37   C
ATOM   1123  O   PHE A 179   7.644  17.138  22.509  1.00 27.77   O
ATOM   1124  N   LEU A 180   8.093  16.665  20.337  1.00 27.22   N
ATOM   1125  CA  LEU A 180   9.458  16.194  20.513  1.00 26.96   C
ATOM   1126  CB  LEU A 180  10.075  15.921  19.134  1.00 26.82   C
ATOM   1127  CG  LEU A 180   9.260  14.959  18.257  1.00 26.68   C
ATOM   1128  CD1 LEU A 180   9.924  14.776  16.901  1.00 21.86   C
ATOM   1129  CD2 LEU A 180   9.123  13.616  18.966  1.00 21.60   C
ATOM   1130  C   LEU A 180  10.362  17.113  21.332  1.00 28.51   C
ATOM   1131  O   LEU A 180  10.543  18.288  21.004  1.00 28.44   O
ATOM   1132  N   PRO A 181  10.943  16.579  22.421  1.00 29.38   N
ATOM   1133  CA  PRO A 181  11.826  17.378  23.271  1.00 30.92   C
ATOM   1134  CB  PRO A 181  11.957  16.524  24.528  1.00 30.61   C
ATOM   1135  CG  PRO A 181  11.939  15.148  23.982  1.00 29.83   C
ATOM   1136  CD  PRO A 181  10.827  15.204  22.940  1.00 29.63   C
ATOM   1137  C   PRO A 181  13.164  17.622  22.590  1.00 31.85   C
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ATOM   1138  O   PRO A 181    13.683  16.764  21.875  1.00 32.03   O
ATOM   1139  N   GLN A 182    13.700  18.814  22.812  1.00 34.15   N
ATOM   1140  CA  GLN A 182    14.972  19.230  22.248  1.00 38.42   C
ATOM   1141  CB  GLN A 182    15.160  20.727  22.513  1.00 38.11   C
ATOM   1142  CG  GLN A 182    16.349  21.358  21.838  1.00 43.04   C
ATOM   1143  CD  GLN A 182    16.516  22.813  22.231  1.00 47.27   C
ATOM   1144  OE1 GLN A 182    15.580  23.609  22.117  1.00 48.82   O
ATOM   1145  NE2 GLN A 182    17.711  23.170  22.697  1.00 49.54   N
ATOM   1146  C   GLN A 182    16.112  18.428  22.879  1.00 39.16   C
ATOM   1147  O   GLN A 182    16.316  18.480  24.086  1.00 38.96   O
ATOM   1148  N   PRO A 183    16.859  17.662  22.064  1.00 41.26   N
ATOM   1149  CA  PRO A 183    17.982  16.847  22.544  1.00 43.14   C
ATOM   1150  CB  PRO A 183    18.400  16.062  21.301  1.00 42.53   C
ATOM   1151  CG  PRO A 183    17.158  16.009  20.489  1.00 42.51   C
ATOM   1152  CD  PRO A 183    16.605  17.398  20.641  1.00 41.37   C
ATOM   1153  C   PRO A 183    19.108  17.739  23.043  1.00 45.17   C
ATOM   1154  O   PRO A 183    19.222  18.894  22.630  1.00 45.74   O
ATOM   1155  N   ASP A 184    19.939  17.208  23.931  1.00 47.82   N
ATOM   1156  CA  ASP A 184    21.059  17.974  24.468  1.00 50.56   C
ATOM   1157  CB  ASP A 184    21.516  17.365  25.799  1.00 51.23   C
ATOM   1158  CG  ASP A 184    22.507  18.246  26.543  1.00 54.35   C
ATOM   1159  OD1 ASP A 184    23.479  18.717  25.914  1.00 58.16   O
ATOM   1160  OD2 ASP A 184    22.324  18.461  27.763  1.00 57.05   O
ATOM   1161  C   ASP A 184    22.203  17.949  23.453  1.00 51.40   C
ATOM   1162  O   ASP A 184    22.988  18.890  23.366  1.00 52.48   O
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ATOM	1163	N	LYS	A	185	22.284	16.869	22.684	1.00	52.40	N
ATOM	1164	CA	LYS	A	185	23.319	16.719	21.668	1.00	53.25	C
ATOM	1165	CB	LYS	A	185	24.352	15.684	22.118	1.00	53.85	C
ATOM	1166	CG	LYS	A	185	23.763	14.312	22.430	1.00	54.84	C
ATOM	1167	CD	LYS	A	185	24.851	13.323	22.816	1.00	57.25	C
ATOM	1168	CE	LYS	A	185	24.267	11.984	23.237	1.00	59.39	C
ATOM	1169	NZ	LYS	A	185	25.336	11.017	23.617	1.00	59.87	N
ATOM	1170	C	LYS	A	185	22.716	16.284	20.334	1.00	53.50	C
ATOM	1171	O	LYS	A	185	21.499	16.182	20.199	1.00	53.06	O
ATOM	1172	N	CYS	A	186	23.585	16.034	19.357	1.00	54.14	N
ATOM	1173	CA	CYS	A	186	23.183	15.596	18.021	1.00	55.37	C
ATOM	1174	CB	CYS	A	186	22.282	14.353	18.107	1.00	54.41	C
ATOM	1175	SG	CYS	A	186	22.903	12.974	19.126	1.00	51.22	S
ATOM	1176	C	CYS	A	186	22.467	16.652	17.176	1.00	56.92	C
ATOM	1177	O	CYS	A	186	21.884	16.315	16.147	1.00	57.78	O
ATOM	1178	N	ILE	A	187	22.513	17.919	17.580	1.00	59.30	N
ATOM	1179	CA	ILE	A	187	21.817	18.953	16.812	1.00	61.99	C
ATOM	1180	CB	ILE	A	187	20.357	19.109	17.314	1.00	62.28	C
ATOM	1181	CG1	ILE	A	187	19.545	17.872	16.927	1.00	61.77	C
ATOM	1182	CD1	ILE	A	187	18.090	17.965	17.308	1.00	65.79	C
ATOM	1183	CG2	ILE	A	187	19.710	20.354	16.726	1.00	63.84	C
ATOM	1184	C	ILE	A	187	22.440	20.346	16.751	1.00	63.97	C
ATOM	1185	O	ILE	A	187	22.046	21.143	15.904	1.00	64.66	O
ATOM	1186	N	GLN	A	188	23.412	20.642	17.609	1.00	66.08	N
ATOM	1187	CA	GLN	A	188	24.019	21.978	17.637	1.00	68.34	C

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ATOM   1188  CB  GLN A 188     24.150  22.572  16.226  1.00 68.29   C
ATOM   1189  CG  GLN A 188     25.566  22.753  15.711  1.00 70.61   C
ATOM   1190  CD  GLN A 188     26.306  21.441  15.570  1.00 72.82   C
ATOM   1191  OE1 GLN A 188     25.787  20.479  14.999  1.00 73.93   O
ATOM   1192  NE2 GLN A 188     27.531  21.395  16.082  1.00 74.08   N
ATOM   1193  C   GLN A 188     23.042  22.830  18.444  1.00 69.30   C
ATOM   1194  O   GLN A 188     23.017  24.055  18.331  1.00 69.66   O
ATOM   1195  N   GLU A 189     22.232  22.135  19.242  1.00 70.42   N
ATOM   1196  CA  GLU A 189     21.203  22.703  20.112  1.00 71.39   C
ATOM   1197  CB  GLU A 189     21.351  22.125  21.520  1.00 71.77   C
ATOM   1198  CG  GLU A 189     22.147  20.827  21.579  1.00 72.99   C
ATOM   1199  CD  GLU A 189     21.669  19.790  20.583  1.00 73.77   C
ATOM   1200  OE1 GLU A 189     20.472  19.433  20.610  1.00 76.28   O
ATOM   1201  OE2 GLU A 189     22.494  19.324  19.770  1.00 73.47   O
ATOM   1202  C   GLU A 189     21.165  24.227  20.195  1.00 71.75   C
ATOM   1203  O   GLU A 189     21.377  24.768  21.303  1.00 71.94   O
ATOM   1204  OXT GLU A 189     20.906  24.868  19.153  1.00 72.13   O
ATOM   1205  N   GLN B  35     16.520  25.594  58.782  1.00 37.06   N
ATOM   1206  CA  GLN B  35     16.131  26.126  57.446  1.00 35.29   C
ATOM   1207  CB  GLN B  35     17.377  26.612  56.704  1.00 35.86   C
ATOM   1208  CG  GLN B  35     18.466  25.564  56.576  1.00 40.43   C
ATOM   1209  CD  GLN B  35     19.622  26.021  55.700  1.00 46.53   C
ATOM   1210  OE1 GLN B  35     20.623  25.313  55.554  1.00 51.77   O
ATOM   1211  NE2 GLN B  35     19.487  27.204  55.107  1.00 49.87   N
ATOM   1212  C   GLN B  35     15.384  25.108  56.577  1.00 33.30   C
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ATOM   1213  O   GLN B  35    15.044  25.406  55.435  1.00 32.10   O
ATOM   1214  N   GLN B  36    15.123  23.917  57.113  1.00 31.25   N
ATOM   1215  CA  GLN B  36    14.423  22.876  56.353  1.00 29.23   C
ATOM   1216  CB  GLN B  36    14.196  21.618  57.203  1.00 29.22   C
ATOM   1217  CG  GLN B  36    13.615  20.451  56.401  1.00 30.50   C
ATOM   1218  CD  GLN B  36    13.423  19.185  57.222  1.00 31.43   C
ATOM   1219  OE1 GLN B  36    12.508  19.086  58.053  1.00 36.00   O
ATOM   1220  NE2 GLN B  36    14.290  18.209  56.996  1.00 27.78   N
ATOM   1221  C   GLN B  36    13.083  23.366  55.840  1.00 26.86   C
ATOM   1222  O   GLN B  36    12.708  23.095  54.699  1.00 23.30   O
ATOM   1223  N   ASP B  37    12.363  24.084  56.694  1.00 27.22   N
ATOM   1224  CA  ASP B  37    11.050  24.609  56.338  1.00 27.10   C
ATOM   1225  CB  ASP B  37    10.457  25.408  57.499  1.00 30.98   C
ATOM   1226  CG  ASP B  37     9.837  24.522  58.561  1.00 35.24   C
ATOM   1227  OD1 ASP B  37    10.576  23.732  59.182  1.00 47.18   O
ATOM   1228  OD2 ASP B  37     8.609  24.616  58.778  1.00 45.07   O
ATOM   1229  C   ASP B  37    11.066  25.480  55.097  1.00 25.31   C
ATOM   1230  O   ASP B  37    10.045  25.635  54.435  1.00 24.94   O
ATOM   1231  N   LYS B  38    12.223  26.054  54.786  1.00 24.03   N
ATOM   1232  CA  LYS B  38    12.345  26.911  53.617  1.00 23.34   C
ATOM   1233  CB  LYS B  38    13.643  27.722  53.691  1.00 23.59   C
ATOM   1234  CG  LYS B  38    13.641  28.770  54.800  1.00 26.63   C
ATOM   1235  CD  LYS B  38    12.474  29.733  54.619  1.00 28.10   C
ATOM   1236  CE  LYS B  38    12.507  30.861  55.636  1.00 34.26   C
ATOM   1237  NZ  LYS B  38    13.727  31.698  55.494  1.00 36.28   N
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ATOM   1238  C   LYS B  38    12.297  26.139  52.304  1.00 22.17   C
ATOM   1239  O   LYS B  38    12.019  26.719  51.262  1.00 23.22   O
ATOM   1240  N   PHE B  39    12.555  24.836  52.362  1.00 19.91   N
ATOM   1241  CA  PHE B  39    12.561  24.000  51.171  1.00 17.90   C
ATOM   1242  CB  PHE B  39    13.749  23.033  51.226  1.00 19.08   C
ATOM   1243  CG  PHE B  39    15.089  23.725  51.228  1.00 18.43   C
ATOM   1244  CD1 PHE B  39    15.607  24.265  52.398  1.00 16.91   C
ATOM   1245  CE1 PHE B  39    16.823  24.930  52.401  1.00 19.03   C
ATOM   1246  CZ  PHE B  39    17.546  25.067  51.211  1.00 20.75   C
ATOM   1247  CE2 PHE B  39    17.035  24.531  50.034  1.00 21.98   C
ATOM   1248  CD2 PHE B  39    15.811  23.862  50.050  1.00 19.07   C
ATOM   1249  C   PHE B  39    11.270  23.224  50.967  1.00 16.73   C
ATOM   1250  O   PHE B  39    11.175  22.390  50.068  1.00 16.56   O
ATOM   1251  N   LEU B  40    10.272  23.492  51.800  1.00 15.91   N
ATOM   1252  CA  LEU B  40    9.000   22.803  51.653  1.00 17.17   C
ATOM   1253  CB  LEU B  40    8.113   23.043  52.878  1.00 17.42   C
ATOM   1254  CG  LEU B  40    8.753   22.577  54.192  1.00 19.17   C
ATOM   1255  CD1 LEU B  40    7.779   22.756  55.337  1.00 24.49   C
ATOM   1256  CD2 LEU B  40    9.161   21.117  54.075  1.00 20.54   C
ATOM   1257  C   LEU B  40    8.345   23.357  50.401  1.00 17.51   C
ATOM   1258  O   LEU B  40    8.832   24.325  49.816  1.00 17.99   O
ATOM   1259  N   GLY B  41    7.266   22.729  49.960  1.00 17.31   N
ATOM   1260  CA  GLY B  41    6.588   23.237  48.783  1.00 17.09   C
ATOM   1261  C   GLY B  41    6.856   22.523  47.477  1.00 17.14   C
ATOM   1262  O   GLY B  41    7.352   21.394  47.444  1.00 18.05   O
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ATOM   1263  N   ARG B  42    6.543  23.215  46.389  1.00 16.40   N
ATOM   1264  CA  ARG B  42    6.680  22.676  45.043  1.00 18.88   C
ATOM   1265  CB  ARG B  42    5.614  23.311  44.155  1.00 17.27   C
ATOM   1266  CG  ARG B  42    5.756  22.949  42.697  1.00 25.31   C
ATOM   1267  CD  ARG B  42    5.545  24.170  41.836  1.00 28.18   C
ATOM   1268  NE  ARG B  42    4.160  24.356  41.464  1.00 27.84   N
ATOM   1269  CZ  ARG B  42    3.700  25.456  40.879  1.00 32.90   C
ATOM   1270  NH1 ARG B  42    4.526  26.466  40.622  1.00 29.84   N
ATOM   1271  NH2 ARG B  42    2.428  25.527  40.509  1.00 28.11   N
ATOM   1272  C   ARG B  42    8.043  22.809  44.355  1.00 17.36   C
ATOM   1273  O   ARG B  42    8.626  23.894  44.278  1.00 16.56   O
ATOM   1274  N   TRP B  43    8.530  21.686  43.837  1.00 18.23   N
ATOM   1275  CA  TRP B  43    9.796  21.653  43.113  1.00 17.56   C
ATOM   1276  CB  TRP B  43   10.903  21.021  43.949  1.00 16.97   C
ATOM   1277  CG  TRP B  43   11.305  21.771  45.176  1.00 16.19   C
ATOM   1278  CD1 TRP B  43   10.757  21.668  46.424  1.00 17.38   C
ATOM   1279  NE1 TRP B  43   11.444  22.462  47.312  1.00 14.16   N
ATOM   1280  CE2 TRP B  43   12.452  23.102  46.641  1.00 14.82   C
ATOM   1281  CD2 TRP B  43   12.393  22.692  45.290  1.00 15.35   C
ATOM   1282  CE3 TRP B  43   13.322  23.210  44.384  1.00 13.96   C
ATOM   1283  CZ3 TRP B  43   14.281  24.114  44.850  1.00 18.19   C
ATOM   1284  CH2 TRP B  43   14.313  24.501  46.202  1.00 16.46   C
ATOM   1285  CZ2 TRP B  43   13.409  24.008  47.107  1.00 16.31   C
ATOM   1286  C   TRP B  43    9.621  20.813  41.863  1.00 17.89   C
ATOM   1287  O   TRP B  43    8.650  20.071  41.733  1.00 17.99   O
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ATOM	1288	N	TYR	B	44	10.579	20.925	40.952	1.00	18.35	N
ATOM	1289	CA	TYR	B	44	10.568	20.162	39.712	1.00	19.01	C
ATOM	1290	CB	TYR	B	44	10.294	21.085	38.523	1.00	20.26	C
ATOM	1291	CG	TYR	B	44	8.927	21.731	38.531	1.00	19.50	C
ATOM	1292	CD1	TYR	B	44	7.799	21.020	38.120	1.00	21.39	C
ATOM	1293	CE1	TYR	B	44	6.529	21.605	38.129	1.00	21.89	C
ATOM	1294	CZ	TYR	B	44	6.387	22.916	38.557	1.00	23.64	C
ATOM	1295	OH	TYR	B	44	5.135	23.485	38.590	1.00	21.63	O
ATOM	1296	CE2	TYR	B	44	7.496	23.647	38.973	1.00	22.08	C
ATOM	1297	CD2	TYR	B	44	8.760	23.050	38.958	1.00	21.31	C
ATOM	1298	C	TYR	B	44	11.937	19.506	39.528	1.00	20.14	C
ATOM	1299	O	TYR	B	44	12.979	20.175	39.631	1.00	19.15	O
ATOM	1300	N	SER	B	45	11.940	18.197	39.273	1.00	21.35	N
ATOM	1301	CA	SER	B	45	13.192	17.487	39.032	1.00	23.58	C
ATOM	1302	CB	SER	B	45	12.987	15.970	39.141	1.00	25.18	C
ATOM	1303	OG	SER	B	45	11.926	15.531	38.307	1.00	26.39	O
ATOM	1304	C	SER	B	45	13.585	17.878	37.612	1.00	24.18	C
ATOM	1305	O	SER	B	45	12.903	17.521	36.656	1.00	25.49	O
ATOM	1306	N	ALA	B	46	14.680	18.627	37.484	1.00	24.22	N
ATOM	1307	CA	ALA	B	46	15.136	19.102	36.186	1.00	21.23	C
ATOM	1308	CB	ALA	B	46	15.312	20.621	36.231	1.00	20.41	C
ATOM	1309	C	ALA	B	46	16.423	18.458	35.693	1.00	21.73	C
ATOM	1310	O	ALA	B	46	16.724	18.505	34.503	1.00	21.13	O
ATOM	1311	N	GLY	B	47	17.195	17.878	36.605	1.00	22.14	N
ATOM	1312	CA	GLY	B	47	18.452	17.261	36.217	1.00	22.69	C

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ATOM   1313  C   GLY B  47     18.706  15.987  36.987  1.00 22.41   C
ATOM   1314  O   GLY B  47     18.440  15.922  38.186  1.00 21.93   O
ATOM   1315  N   LEU B  48     19.219  14.973  36.296  1.00 24.68   N
ATOM   1316  CA  LEU B  48     19.496  13.682  36.919  1.00 26.44   C
ATOM   1317  CB  LEU B  48     18.288  12.762  36.740  1.00 25.78   C
ATOM   1318  CG  LEU B  48     18.301  11.366  37.357  1.00 27.38   C
ATOM   1319  CD1 LEU B  48     18.364  11.455  38.880  1.00 31.44   C
ATOM   1320  CD2 LEU B  48     17.031  10.633  36.942  1.00 29.28   C
ATOM   1321  C   LEU B  48     20.744  13.035  36.315  1.00 28.13   C
ATOM   1322  O   LEU B  48     20.924  13.018  35.096  1.00 28.67   O
ATOM   1323  N   ALA B  49     21.608  12.513  37.177  1.00 29.37   N
ATOM   1324  CA  ALA B  49     22.836  11.860  36.736  1.00 30.98   C
ATOM   1325  CB  ALA B  49     23.987  12.849  36.763  1.00 29.77   C
ATOM   1326  C   ALA B  49     23.134  10.674  37.650  1.00 32.18   C
ATOM   1327  O   ALA B  49     22.876  10.731  38.849  1.00 32.22   O
ATOM   1328  N   SER B  50     23.671   9.598  37.084  1.00 34.77   N
ATOM   1329  CA  SER B  50     23.980   8.408  37.872  1.00 36.25   C
ATOM   1330  CB  SER B  50     22.684   7.746  38.339  1.00 35.93   C
ATOM   1331  OG  SER B  50     22.950   6.569  39.084  1.00 36.08   O
ATOM   1332  C   SER B  50     24.815   7.386  37.109  1.00 37.63   C
ATOM   1333  O   SER B  50     25.029   7.518  35.903  1.00 38.29   O
ATOM   1334  N   ASN B  51     25.287   6.369  37.825  1.00 38.85   N
ATOM   1335  CA  ASN B  51     26.076   5.302  37.222  1.00 40.59   C
ATOM   1336  CB  ASN B  51     27.459   5.203  37.880  1.00 40.57   C
ATOM   1337  CG  ASN B  51     27.391   4.940  39.380  1.00 39.49   C
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ATOM   1338  OD1 ASN B  51      28.419   4.773  40.030  1.00 42.49   O
ATOM   1339  ND2 ASN B  51      26.185   4.903  39.931  1.00 34.80   N
ATOM   1340  C   ASN B  51      25.328   3.984  37.377  1.00 42.31   C
ATOM   1341  O   ASN B  51      25.792   2.935  36.941  1.00 42.26   O
ATOM   1342  N   SER B  52      24.160   4.058  38.004  1.00 44.68   N
ATOM   1343  CA  SER B  52      23.323   2.888  38.233  1.00 47.48   C
ATOM   1344  CB  SER B  52      22.033   3.306  38.944  1.00 48.00   C
ATOM   1345  OG  SER B  52      21.065   2.269  38.892  1.00 52.56   O
ATOM   1346  C   SER B  52      22.964   2.146  36.952  1.00 48.12   C
ATOM   1347  O   SER B  52      23.280   2.590  35.850  1.00 48.41   O
ATOM   1348  N   SER B  53      22.301   1.006  37.118  1.00 49.66   N
ATOM   1349  CA  SER B  53      21.859   0.188  35.996  1.00 50.25   C
ATOM   1350  CB  SER B  53      21.713  -1.273  36.437  1.00 50.27   C
ATOM   1351  OG  SER B  53      22.947  -1.793  36.907  1.00 51.05   O
ATOM   1352  C   SER B  53      20.507   0.745  35.567  1.00 50.62   C
ATOM   1353  O   SER B  53      20.218   0.874  34.378  1.00 50.70   O
ATOM   1354  N   TRP B  54      19.693   1.077  36.564  1.00 51.37   N
ATOM   1355  CA  TRP B  54      18.364   1.638  36.358  1.00 52.70   C
ATOM   1356  CB  TRP B  54      17.776   2.047  37.709  1.00 53.23   C
ATOM   1357  CG  TRP B  54      16.450   2.737  37.630  1.00 56.64   C
ATOM   1358  CD1 TRP B  54      15.234   2.162  37.391  1.00 59.22   C
ATOM   1359  NE1 TRP B  54      14.244   3.119  37.411  1.00 60.28   N
ATOM   1360  CE2 TRP B  54      14.813   4.340  37.661  1.00 60.04   C
ATOM   1361  CD2 TRP B  54      16.205   4.138  37.804  1.00 58.84   C
ATOM   1362  CE3 TRP B  54      17.027   5.243  38.068  1.00 59.81   C
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ATOM	1363	CZ3	TRP	B	54	16.441	6.500	38.179	1.00	60.48	C
ATOM	1364	CH2	TRP	B	54	15.052	6.669	38.032	1.00	61.73	C
ATOM	1365	CZ2	TRP	B	54	14.224	5.606	37.774	1.00	61.41	C
ATOM	1366	C	TRP	B	54	18.439	2.855	35.441	1.00	52.10	C
ATOM	1367	O	TRP	B	54	17.820	2.889	34.373	1.00	52.71	O
ATOM	1368	N	PHE	B	55	19.205	3.851	35.869	1.00	51.33	N
ATOM	1369	CA	PHE	B	55	19.376	5.082	35.109	1.00	50.85	C
ATOM	1370	CB	PHE	B	55	20.395	5.984	35.812	1.00	50.43	C
ATOM	1371	CG	PHE	B	55	20.594	7.314	35.146	1.00	48.28	C
ATOM	1372	CD1	PHE	B	55	19.562	8.245	35.099	1.00	46.15	C
ATOM	1373	CE1	PHE	B	55	19.740	9.474	34.471	1.00	46.51	C
ATOM	1374	CZ	PHE	B	55	20.960	9.780	33.881	1.00	46.07	C
ATOM	1375	CE2	PHE	B	55	21.998	8.856	33.923	1.00	46.09	C
ATOM	1376	CD2	PHE	B	55	21.810	7.632	34.553	1.00	46.98	C
ATOM	1377	C	PHE	B	55	19.826	4.801	33.677	1.00	51.09	C
ATOM	1378	O	PHE	B	55	19.209	5.271	32.719	1.00	51.00	O
ATOM	1379	N	ARG	B	56	20.903	4.034	33.541	1.00	51.57	N
ATOM	1380	CA	ARG	B	56	21.445	3.677	32.229	1.00	52.15	C
ATOM	1381	CB	ARG	B	56	22.640	2.726	32.393	1.00	52.46	C
ATOM	1382	CG	ARG	B	56	23.954	3.386	32.783	1.00	54.53	C
ATOM	1383	CD	ARG	B	56	24.907	2.357	33.397	1.00	58.48	C
ATOM	1384	NE	ARG	B	56	26.299	2.806	33.475	1.00	62.11	N
ATOM	1385	CZ	ARG	B	56	26.693	3.976	33.970	1.00	65.15	C
ATOM	1386	NH1	ARG	B	56	25.802	4.841	34.437	1.00	66.66	N
ATOM	1387	NH2	ARG	B	56	27.984	4.281	34.006	1.00	65.67	N

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ATOM   1388  C   ARG B  56     20.411   3.027  31.306  1.00 51.62   C
ATOM   1389  O   ARG B  56     20.424   3.258  30.099  1.00 51.26   O
ATOM   1390  N   GLU B  57     19.515   2.223  31.872  1.00 51.11   N
ATOM   1391  CA  GLU B  57     18.507   1.540  31.071  1.00 51.51   C
ATOM   1392  CB  GLU B  57     18.503   0.046  31.415  1.00 51.87   C
ATOM   1393  CG  GLU B  57     19.780  -0.677  31.007  1.00 53.93   C
ATOM   1394  CD  GLU B  57     19.773  -2.151  31.375  1.00 56.43   C
ATOM   1395  OE1 GLU B  57     19.748  -2.462  32.585  1.00 58.93   O
ATOM   1396  OE2 GLU B  57     19.794  -2.996  30.452  1.00 56.91   O
ATOM   1397  C   GLU B  57     17.094   2.107  31.210  1.00 50.67   C
ATOM   1398  O   GLU B  57     16.108   1.381  31.058  1.00 51.18   O
ATOM   1399  N   LYS B  58     16.991   3.402  31.491  1.00 49.06   N
ATOM   1400  CA  LYS B  58     15.683   4.039  31.646  1.00 47.54   C
ATOM   1401  CB  LYS B  58     15.107   3.722  33.032  1.00 48.39   C
ATOM   1402  CG  LYS B  58     13.686   4.226  33.258  1.00 49.62   C
ATOM   1403  CD  LYS B  58     13.212   3.952  34.682  1.00 52.77   C
ATOM   1404  CE  LYS B  58     11.825   4.545  34.941  1.00 52.82   C
ATOM   1405  NZ  LYS B  58     11.389   4.377  36.358  1.00 52.01   N
ATOM   1406  C   LYS B  58     15.764   5.549  31.457  1.00 45.21   C
ATOM   1407  O   LYS B  58     14.746   6.226  31.389  1.00 44.48   O
ATOM   1408  N   LYS B  59     16.983   6.065  31.359  1.00 43.69   N
ATOM   1409  CA  LYS B  59     17.211   7.494  31.189  1.00 42.38   C
ATOM   1410  CB  LYS B  59     18.709   7.758  31.034  1.00 43.61   C
ATOM   1411  CG  LYS B  59     19.336   7.073  29.832  1.00 44.44   C
ATOM   1412  CD  LYS B  59     20.858   7.044  29.928  1.00 49.79   C
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ATOM   1413  CE  LYS B  59      21.441   8.431  30.163  1.00 52.89   C
ATOM   1414  NZ  LYS B  59      21.020   9.404  29.118  1.00 56.53   N
ATOM   1415  C   LYS B  59      16.459   8.087  30.003  1.00 40.91   C
ATOM   1416  O   LYS B  59      15.966   9.213  30.071  1.00 40.09   O
ATOM   1417  N   ALA B  60      16.367   7.324  28.919  1.00 39.16   N
ATOM   1418  CA  ALA B  60      15.682   7.785  27.723  1.00 36.81   C
ATOM   1419  CB  ALA B  60      15.850   6.773  26.605  1.00 37.20   C
ATOM   1420  C   ALA B  60      14.200   8.054  27.952  1.00 35.75   C
ATOM   1421  O   ALA B  60      13.627   8.923  27.300  1.00 35.18   O
ATOM   1422  N   VAL B  61      13.584   7.319  28.875  1.00 33.10   N
ATOM   1423  CA  VAL B  61      12.157   7.485  29.147  1.00 32.61   C
ATOM   1424  CB  VAL B  61      11.462   6.114  29.347  1.00 32.54   C
ATOM   1425  CG1 VAL B  61      11.692   5.234  28.127  1.00 33.11   C
ATOM   1426  CG2 VAL B  61      11.981   5.434  30.612  1.00 31.73   C
ATOM   1427  C   VAL B  61      11.832   8.353  30.358  1.00 31.55   C
ATOM   1428  O   VAL B  61      10.675   8.446  30.761  1.00 31.40   O
ATOM   1429  N   LEU B  62      12.844   8.991  30.935  1.00 30.56   N
ATOM   1430  CA  LEU B  62      12.621   9.839  32.103  1.00 30.36   C
ATOM   1431  CB  LEU B  62      13.877   9.865  32.975  1.00 31.00   C
ATOM   1432  CG  LEU B  62      14.292   8.491  33.516  1.00 33.97   C
ATOM   1433  CD1 LEU B  62      15.598   8.599  34.288  1.00 33.22   C
ATOM   1434  CD2 LEU B  62      13.183   7.942  34.407  1.00 34.87   C
ATOM   1435  C   LEU B  62      12.212  11.265  31.740  1.00 27.77   C
ATOM   1436  O   LEU B  62      12.790  11.881  30.849  1.00 27.70   O
ATOM   1437  N   TYR B  63      11.196  11.772  32.431  1.00 27.50   N
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ATOM   1438  CA  TYR B  63    10.705  13.127  32.211  1.00 26.18   C
ATOM   1439  CB  TYR B  63     9.240  13.133  31.747  1.00 26.26   C
ATOM   1440  CG  TYR B  63     8.992  12.606  30.357  1.00 27.42   C
ATOM   1441  CD1 TYR B  63     8.814  11.243  30.127  1.00 29.98   C
ATOM   1442  CE1 TYR B  63     8.572  10.757  28.843  1.00 33.87   C
ATOM   1443  CZ  TYR B  63     8.514  11.640  27.775  1.00 32.87   C
ATOM   1444  OH  TYR B  63     8.286  11.168  26.500  1.00 38.94   O
ATOM   1445  CE2 TYR B  63     8.691  13.000  27.981  1.00 32.51   C
ATOM   1446  CD2 TYR B  63     8.926  13.474  29.268  1.00 28.18   C
ATOM   1447  C   TYR B  63    10.783  13.909  33.513  1.00 24.64   C
ATOM   1448  O   TYR B  63    10.958  13.335  34.580  1.00 26.37   O
ATOM   1449  N   MET B  64    10.654  15.224  33.406  1.00 24.11   N
ATOM   1450  CA  MET B  64    10.666  16.089  34.564  1.00 21.60   C
ATOM   1451  CB  MET B  64    10.551  17.543  34.137  1.00 21.40   C
ATOM   1452  CG  MET B  64    10.203  18.491  35.274  1.00 21.55   C
ATOM   1453  SD  MET B  64    10.078  20.155  34.653  1.00 23.70   S
ATOM   1454  CE  MET B  64    11.772  20.441  34.213  1.00 23.94   C
ATOM   1455  C   MET B  64     9.454  15.723  35.391  1.00 20.89   C
ATOM   1456  O   MET B  64     8.387  15.462  34.841  1.00 20.65   O
ATOM   1457  N   ALA B  65     9.620  15.710  36.709  1.00 21.78   N
ATOM   1458  CA  ALA B  65     8.529  15.381  37.610  1.00 22.90   C
ATOM   1459  CB  ALA B  65     8.873  14.137  38.417  1.00 23.61   C
ATOM   1460  C   ALA B  65     8.243  16.536  38.550  1.00 22.81   C
ATOM   1461  O   ALA B  65     9.114  17.356  38.829  1.00 23.08   O
ATOM   1462  N   LYS B  66     7.008  16.595  39.026  1.00 24.13   N
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ATOM   1463  CA  LYS B  66     6.592  17.625  39.968  1.00 24.90   C
ATOM   1464  CB  LYS B  66     5.175  18.090  39.635  1.00 24.40   C
ATOM   1465  CG  LYS B  66     4.531  19.010  40.658  1.00 25.61   C
ATOM   1466  CD  LYS B  66     3.216  19.555  40.101  1.00 24.44   C
ATOM   1467  CE  LYS B  66     2.390  20.253  41.157  1.00 29.98   C
ATOM   1468  NZ  LYS B  66     1.154  20.853  40.569  1.00 39.00   N
ATOM   1469  C   LYS B  66     6.641  16.990  41.356  1.00 24.30   C
ATOM   1470  O   LYS B  66     5.955  15.999  41.616  1.00 26.16   O
ATOM   1471  N   THR B  67     7.468  17.543  42.234  1.00 21.31   N
ATOM   1472  CA  THR B  67     7.608  17.017  43.582  1.00 20.57   C
ATOM   1473  CB  THR B  67     9.066  16.619  43.871  1.00 21.25   C
ATOM   1474  OG1 THR B  67     9.494  15.626  42.934  1.00 21.89   O
ATOM   1475  CG2 THR B  67     9.190  16.068  45.285  1.00 25.45   C
ATOM   1476  C   THR B  67     7.186  18.043  44.639  1.00 20.93   C
ATOM   1477  O   THR B  67     7.706  19.165  44.676  1.00 19.49   O
ATOM   1478  N   VAL B  68     6.244  17.655  45.494  1.00 19.26   N
ATOM   1479  CA  VAL B  68     5.784  18.536  46.556  1.00 18.83   C
ATOM   1480  CB  VAL B  68     4.248  18.560  46.641  1.00 18.95   C
ATOM   1481  CG1 VAL B  68     3.809  19.454  47.803  1.00 21.13   C
ATOM   1482  CG2 VAL B  68     3.675  19.070  45.313  1.00 17.89   C
ATOM   1483  C   VAL B  68     6.382  18.032  47.848  1.00 17.05   C
ATOM   1484  O   VAL B  68     6.272  16.850  48.180  1.00 18.24   O
ATOM   1485  N   VAL B  69     7.038  18.938  48.567  1.00 17.22   N
ATOM   1486  CA  VAL B  69     7.722  18.593  49.807  1.00 15.35   C
ATOM   1487  CB  VAL B  69     9.151  19.150  49.772  1.00 15.47   C
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ATOM   1488  CG1 VAL B  69     9.898  18.773  51.041  1.00 13.26   C
ATOM   1489  CG2 VAL B  69     9.875  18.625  48.511  1.00 15.70   C
ATOM   1490  C   VAL B  69     7.027  19.086  51.077  1.00 15.51   C
ATOM   1491  O   VAL B  69     6.649  20.256  51.182  1.00 16.17   O
ATOM   1492  N   ALA B  70     6.863  18.181  52.036  1.00 16.04   N
ATOM   1493  CA  ALA B  70     6.229  18.511  53.316  1.00 16.88   C
ATOM   1494  CB  ALA B  70     4.739  18.155  53.280  1.00 17.76   C
ATOM   1495  C   ALA B  70     6.937  17.725  54.413  1.00 16.99   C
ATOM   1496  O   ALA B  70     7.651  16.766  54.126  1.00 19.87   O
ATOM   1497  N   PRO B  71     6.742  18.110  55.687  1.00 18.18   N
ATOM   1498  CA  PRO B  71     7.399  17.407  56.796  1.00 17.02   C
ATOM   1499  CB  PRO B  71     6.943  18.192  58.024  1.00 18.58   C
ATOM   1500  CG  PRO B  71     6.643  19.577  57.471  1.00 19.30   C
ATOM   1501  CD  PRO B  71     5.930  19.236  56.192  1.00 16.39   C
ATOM   1502  C   PRO B  71     7.034  15.930  56.905  1.00 18.37   C
ATOM   1503  O   PRO B  71     5.907  15.537  56.594  1.00 15.78   O
ATOM   1504  N   SER B  72     7.993  15.122  57.353  1.00 18.33   N
ATOM   1505  CA  SER B  72     7.769  13.699  57.529  1.00 20.27   C
ATOM   1506  CB  SER B  72     8.978  12.884  57.061  1.00 21.15   C
ATOM   1507  OG  SER B  72    10.036  12.957  57.997  1.00 23.81   O
ATOM   1508  C   SER B  72     7.535  13.482  59.016  1.00 21.63   C
ATOM   1509  O   SER B  72     7.788  14.377  59.825  1.00 22.26   O
ATOM   1510  N   THR B  73     7.058  12.297  59.378  1.00 22.59   N
ATOM   1511  CA  THR B  73     6.757  12.006  60.779  1.00 23.74   C
ATOM   1512  CB  THR B  73     6.236  10.564  60.952  1.00 22.91   C
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ATOM   1513  OG1 THR B  73     5.172  10.318  60.025  1.00 18.94   O
ATOM   1514  CG2 THR B  73     5.697  10.368  62.375  1.00 24.56   C
ATOM   1515  C   THR B  73     7.926  12.201  61.747  1.00 24.50   C
ATOM   1516  O   THR B  73     7.758  12.806  62.800  1.00 24.98   O
ATOM   1517  N   GLU B  74     9.101  11.684  61.389  1.00 25.95   N
ATOM   1518  CA  GLU B  74    10.287  11.785  62.243  1.00 26.06   C
ATOM   1519  CB  GLU B  74    11.271  10.657  61.926  1.00 26.86   C
ATOM   1520  CG  GLU B  74    10.734   9.266  62.197  1.00 29.93   C
ATOM   1521  CD  GLU B  74    10.240   9.113  63.612  1.00 34.17   C
ATOM   1522  OE1 GLU B  74    11.018   9.405  64.549  1.00 38.32   O
ATOM   1523  OE2 GLU B  74     9.075   8.701  63.790  1.00 39.68   O
ATOM   1524  C   GLU B  74    11.028  13.105  62.140  1.00 26.53   C
ATOM   1525  O   GLU B  74    12.075  13.269  62.754  1.00 26.06   O
ATOM   1526  N   GLY B  75    10.495  14.042  61.365  1.00 26.90   N
ATOM   1527  CA  GLY B  75    11.163  15.321  61.217  1.00 26.25   C
ATOM   1528  C   GLY B  75    11.902  15.432  59.895  1.00 26.38   C
ATOM   1529  O   GLY B  75    12.521  16.458  59.607  1.00 27.95   O
ATOM   1530  N   GLY B  76    11.854  14.367  59.097  1.00 24.68   N
ATOM   1531  CA  GLY B  76    12.498  14.376  57.796  1.00 22.08   C
ATOM   1532  C   GLY B  76    11.570  14.981  56.751  1.00 21.83   C
ATOM   1533  O   GLY B  76    10.769  15.857  57.076  1.00 19.87   O
ATOM   1534  N   LEU B  77    11.655  14.508  55.505  1.00 20.87   N
ATOM   1535  CA  LEU B  77    10.820  15.038  54.433  1.00 19.22   C
ATOM   1536  CB  LEU B  77    11.679  15.795  53.418  1.00 19.77   C
ATOM   1537  CG  LEU B  77    12.495  17.003  53.873  1.00 21.45   C
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ATOM   1538  CD1 LEU B  77    13.547  17.334  52.816  1.00 23.98   C
ATOM   1539  CD2 LEU B  77    11.577  18.164  54.122  1.00 17.71   C
ATOM   1540  C   LEU B  77     9.981  14.022  53.657  1.00 20.65   C
ATOM   1541  O   LEU B  77    10.445  12.943  53.291  1.00 20.00   O
ATOM   1542  N   ASN B  78     8.731  14.392  53.410  1.00 19.49   N
ATOM   1543  CA  ASN B  78     7.822  13.577  52.629  1.00 19.83   C
ATOM   1544  CB  ASN B  78     6.382  13.725  53.137  1.00 20.64   C
ATOM   1545  CG  ASN B  78     5.973  12.637  54.111  1.00 21.67   C
ATOM   1546  OD1 ASN B  78     6.799  11.869  54.604  1.00 18.96   O
ATOM   1547  ND2 ASN B  78     4.679  12.575  54.398  1.00 16.01   N
ATOM   1548  C   ASN B  78     7.923  14.203  51.241  1.00 19.96   C
ATOM   1549  O   ASN B  78     7.819  15.424  51.106  1.00 21.03   O
ATOM   1550  N   LEU B  79     8.154  13.379  50.227  1.00 19.97   N
ATOM   1551  CA  LEU B  79     8.243  13.857  48.855  1.00 20.38   C
ATOM   1552  CB  LEU B  79     9.607  13.528  48.224  1.00 21.06   C
ATOM   1553  CG  LEU B  79    10.830  14.410  48.503  1.00 20.33   C
ATOM   1554  CD1 LEU B  79    11.176  14.376  49.981  1.00 15.77   C
ATOM   1555  CD2 LEU B  79    12.006  13.919  47.655  1.00 25.25   C
ATOM   1556  C   LEU B  79     7.153  13.157  48.055  1.00 21.10   C
ATOM   1557  O   LEU B  79     7.196  11.938  47.865  1.00 20.88   O
ATOM   1558  N   THR B  80     6.164  13.926  47.609  1.00 20.87   N
ATOM   1559  CA  THR B  80     5.086  13.365  46.810  1.00 20.85   C
ATOM   1560  CB  THR B  80     3.702  13.899  47.273  1.00 20.49   C
ATOM   1561  OG1 THR B  80     3.477  13.532  48.643  1.00 20.65   O
ATOM   1562  CG2 THR B  80     2.587  13.314  46.415  1.00 19.59   C
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ATOM   1563  C   THR B  80     5.363  13.783  45.370  1.00 20.80   C
ATOM   1564  O   THR B  80     5.304  14.963  45.037  1.00 20.97   O
ATOM   1565  N   SER B  81     5.691  12.816  44.525  1.00 21.75   N
ATOM   1566  CA  SER B  81     6.002  13.107  43.132  1.00 22.99   C
ATOM   1567  CB  SER B  81     7.352  12.494  42.752  1.00 22.82   C
ATOM   1568  OG  SER B  81     8.418  13.029  43.522  1.00 27.07   O
ATOM   1569  C   SER B  81     4.951  12.612  42.145  1.00 24.46   C
ATOM   1570  O   SER B  81     4.392  11.514  42.285  1.00 24.48   O
ATOM   1571  N   THR B  82     4.688  13.445  41.147  1.00 25.52   N
ATOM   1572  CA  THR B  82     3.744  13.130  40.085  1.00 26.98   C
ATOM   1573  CB  THR B  82     2.716  14.253  39.910  1.00 27.26   C
ATOM   1574  OG1 THR B  82     1.968  14.397  41.124  1.00 28.56   O
ATOM   1575  CG2 THR B  82     1.768  13.939  38.759  1.00 26.26   C
ATOM   1576  C   THR B  82     4.618  13.023  38.841  1.00 28.72   C
ATOM   1577  O   THR B  82     5.343  13.964  38.507  1.00 28.19   O
ATOM   1578  N   PHE B  83     4.560  11.877  38.166  1.00 30.09   N
ATOM   1579  CA  PHE B  83     5.385  11.659  36.989  1.00 33.13   C
ATOM   1580  CB  PHE B  83     6.702  11.011  37.408  1.00 33.32   C
ATOM   1581  CG  PHE B  83     6.532   9.719  38.164  1.00 35.08   C
ATOM   1582  CD1 PHE B  83     6.000   9.710  39.452  1.00 35.79   C
ATOM   1583  CE1 PHE B  83     5.858   8.515  40.160  1.00 37.06   C
ATOM   1584  CZ  PHE B  83     6.250   7.309  39.580  1.00 35.12   C
ATOM   1585  CE2 PHE B  83     6.780   7.305  38.297  1.00 34.32   C
ATOM   1586  CD2 PHE B  83     6.919   8.508  37.595  1.00 35.78   C
ATOM   1587  C   PHE B  83     4.736  10.807  35.904  1.00 35.08   C
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ATOM   1588  O   PHE B  83     3.757  10.104  36.145  1.00 35.20   O
ATOM   1589  N   LEU B  84     5.300  10.888  34.703  1.00 37.29   N
ATOM   1590  CA  LEU B  84     4.827  10.126  33.552  1.00 39.17   C
ATOM   1591  CB  LEU B  84     5.018  10.947  32.273  1.00 38.63   C
ATOM   1592  CG  LEU B  84     4.592  10.337  30.934  1.00 37.74   C
ATOM   1593  CD1 LEU B  84     3.086  10.104  30.921  1.00 36.04   C
ATOM   1594  CD2 LEU B  84     4.997  11.274  29.806  1.00 35.51   C
ATOM   1595  C   LEU B  84     5.663   8.847  33.485  1.00 40.90   C
ATOM   1596  O   LEU B  84     6.877   8.911  33.298  1.00 40.46   O
ATOM   1597  N   ARG B  85     5.014   7.696  33.651  1.00 43.31   N
ATOM   1598  CA  ARG B  85     5.705   6.404  33.628  1.00 46.39   C
ATOM   1599  CB  ARG B  85     5.027   5.426  34.582  1.00 46.96   C
ATOM   1600  CG  ARG B  85     5.722   4.082  34.680  1.00 47.76   C
ATOM   1601  CD  ARG B  85     6.855   4.137  35.685  1.00 50.67   C
ATOM   1602  NE  ARG B  85     7.456   2.829  35.941  1.00 52.88   N
ATOM   1603  CZ  ARG B  85     6.776   1.731  36.263  1.00 55.13   C
ATOM   1604  NH1 ARG B  85     5.451   1.761  36.367  1.00 55.46   N
ATOM   1605  NH2 ARG B  85     7.425   0.598  36.499  1.00 54.74   N
ATOM   1606  C   ARG B  85     5.710   5.788  32.237  1.00 48.35   C
ATOM   1607  O   ARG B  85     6.766   5.559  31.646  1.00 49.00   O
ATOM   1608  N   LYS B  86     4.514   5.500  31.735  1.00 49.68   N
ATOM   1609  CA  LYS B  86     4.346   4.913  30.414  1.00 50.77   C
ATOM   1610  CB  LYS B  86     4.293   3.390  30.521  1.00 50.85   C
ATOM   1611  CG  LYS B  86     5.499   2.811  31.242  1.00 52.18   C
ATOM   1612  CD  LYS B  86     5.446   1.302  31.337  1.00 55.10   C
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ATOM   1613  CE  LYS B  86     6.667   0.775  32.067  1.00 56.19   C
ATOM   1614  NZ  LYS B  86     6.681  -0.709  32.134  1.00 54.56   N
ATOM   1615  C   LYS B  86     3.038   5.457  29.872  1.00 51.30   C
ATOM   1616  O   LYS B  86     2.026   4.760  29.839  1.00 51.59   O
ATOM   1617  N   ASN B  87     3.072   6.720  29.460  1.00 51.82   N
ATOM   1618  CA  ASN B  87     1.896   7.397  28.939  1.00 52.40   C
ATOM   1619  CB  ASN B  87     1.362   6.700  27.685  1.00 53.21   C
ATOM   1620  CG  ASN B  87     2.156   7.048  26.445  1.00 54.72   C
ATOM   1621  OD1 ASN B  87     3.274   6.565  26.247  1.00 56.95   O
ATOM   1622  ND2 ASN B  87     1.587   7.905  25.605  1.00 55.62   N
ATOM   1623  C   ASN B  87     0.814   7.449  30.001  1.00 51.79   C
ATOM   1624  O   ASN B  87    -0.375   7.490  29.688  1.00 52.58   O
ATOM   1625  N   GLN B  88     1.235   7.437  31.261  1.00 51.17   N
ATOM   1626  CA  GLN B  88     0.303   7.511  32.380  1.00 50.52   C
ATOM   1627  CB  GLN B  88    -0.030   6.124  32.940  1.00 50.99   C
ATOM   1628  CG  GLN B  88    -1.045   6.212  34.090  1.00 52.80   C
ATOM   1629  CD  GLN B  88    -1.101   4.976  34.971  1.00 55.25   C
ATOM   1630  OE1 GLN B  88    -0.099   4.567  35.561  1.00 54.92   O
ATOM   1631  NE2 GLN B  88    -2.285   4.382  35.076  1.00 55.03   N
ATOM   1632  C   GLN B  88     0.882   8.350  33.512  1.00 49.33   C
ATOM   1633  O   GLN B  88     2.079   8.292  33.792  1.00 48.79   O
ATOM   1634  N   CYS B  89     0.025   9.129  34.161  1.00 48.09   N
ATOM   1635  CA  CYS B  89     0.451   9.956  35.278  1.00 47.25   C
ATOM   1636  CB  CYS B  89    -0.463  11.173  35.441  1.00 47.96   C
ATOM   1637  SG  CYS B  89    -0.440  12.321  34.033  1.00 52.30   S
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ATOM   1638  C   CYS B  89     0.417   9.134  36.557  1.00 45.36   C
ATOM   1639  O   CYS B  89    -0.634   8.637  36.961  1.00 45.21   O
ATOM   1640  N   GLU B  90     1.573   8.986  37.187  1.00 42.70   N
ATOM   1641  CA  GLU B  90     1.662   8.234  38.423  1.00 41.56   C
ATOM   1642  CB  GLU B  90     2.663   7.085  38.283  1.00 41.43   C
ATOM   1643  CG  GLU B  90     2.074   5.833  37.660  1.00 45.26   C
ATOM   1644  CD  GLU B  90     3.097   4.728  37.493  1.00 48.56   C
ATOM   1645  OE1 GLU B  90     3.894   4.508  38.430  1.00 49.59   O
ATOM   1646  OE2 GLU B  90     3.099   4.071  36.430  1.00 50.95   O
ATOM   1647  C   GLU B  90     2.075   9.146  39.564  1.00 40.06   C
ATOM   1648  O   GLU B  90     2.608  10.234  39.347  1.00 39.58   O
ATOM   1649  N   THR B  91     1.809   8.697  40.781  1.00 37.76   N
ATOM   1650  CA  THR B  91     2.159   9.455  41.964  1.00 37.06   C
ATOM   1651  CB  THR B  91     0.922  10.101  42.610  1.00 37.34   C
ATOM   1652  OG1 THR B  91     0.602  11.308  41.908  1.00 37.99   O
ATOM   1653  CG2 THR B  91     1.180  10.428  44.069  1.00 36.87   C
ATOM   1654  C   THR B  91     2.815   8.524  42.956  1.00 35.97   C
ATOM   1655  O   THR B  91     2.307   7.442  43.234  1.00 36.79   O
ATOM   1656  N   LYS B  92     3.961   8.942  43.470  1.00 34.66   N
ATOM   1657  CA  LYS B  92     4.670   8.141  44.442  1.00 34.25   C
ATOM   1658  CB  LYS B  92     5.930   7.526  43.823  1.00 35.39   C
ATOM   1659  CG  LYS B  92     6.573   6.473  44.724  1.00 40.91   C
ATOM   1660  CD  LYS B  92     7.770   5.797  44.073  1.00 47.37   C
ATOM   1661  CE  LYS B  92     8.295   4.668  44.950  1.00 49.29   C
ATOM   1662  NZ  LYS B  92     9.460   3.958  44.346  1.00 51.25   N
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ATOM   1663  C   LYS B  92    5.047   9.016  45.624  1.00 32.07   C
ATOM   1664  O   LYS B  92    5.201  10.229  45.492  1.00 31.59   O
ATOM   1665  N   ILE B  93    5.177   8.394  46.787  1.00 30.05   N
ATOM   1666  CA  ILE B  93    5.564   9.110  47.986  1.00 29.86   C
ATOM   1667  CB  ILE B  93    4.489   9.004  49.082  1.00 28.91   C
ATOM   1668  CG1 ILE B  93    3.221   9.726  48.619  1.00 29.22   C
ATOM   1669  CD1 ILE B  93    2.075   9.651  49.590  1.00 33.59   C
ATOM   1670  CG2 ILE B  93    5.006   9.615  50.381  1.00 31.24   C
ATOM   1671  C   ILE B  93    6.865   8.524  48.500  1.00 29.02   C
ATOM   1672  O   ILE B  93    6.973   7.314  48.697  1.00 29.59   O
ATOM   1673  N   MET B  94    7.855   9.389  48.683  1.00 28.74   N
ATOM   1674  CA  MET B  94    9.157   8.982  49.192  1.00 28.69   C
ATOM   1675  CB  MET B  94   10.268   9.380  48.223  1.00 30.16   C
ATOM   1676  CG  MET B  94   10.133   8.774  46.852  1.00 33.76   C
ATOM   1677  SD  MET B  94   11.342   9.469  45.713  1.00 42.95   S
ATOM   1678  CE  MET B  94   12.813   8.613  46.225  1.00 39.86   C
ATOM   1679  C   MET B  94    9.386   9.693  50.519  1.00 26.85   C
ATOM   1680  O   MET B  94    9.071  10.879  50.671  1.00 26.13   O
ATOM   1681  N   VAL B  95    9.938   8.962  51.477  1.00 24.54   N
ATOM   1682  CA  VAL B  95   10.222   9.525  52.781  1.00 23.92   C
ATOM   1683  CB  VAL B  95    9.664   8.653  53.915  1.00 23.21   C
ATOM   1684  CG1 VAL B  95   10.142   9.197  55.253  1.00 23.76   C
ATOM   1685  CG2 VAL B  95    8.133   8.611  53.859  1.00 26.68   C
ATOM   1686  C   VAL B  95   11.725   9.645  53.001  1.00 23.60   C
ATOM   1687  O   VAL B  95   12.438   8.639  53.039  1.00 24.63   O
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ATOM   1688  N   LEU B  96     12.199  10.880  53.122  1.00 23.77   N
ATOM   1689  CA  LEU B  96     13.605  11.130  53.408  1.00 24.17   C
ATOM   1690  CB  LEU B  96     14.077  12.432  52.762  1.00 24.53   C
ATOM   1691  CG  LEU B  96     14.079  12.475  51.231  1.00 26.20   C
ATOM   1692  CD1 LEU B  96     14.585  13.838  50.746  1.00 29.41   C
ATOM   1693  CD2 LEU B  96     14.956  11.368  50.693  1.00 26.73   C
ATOM   1694  C   LEU B  96     13.682  11.241  54.926  1.00 23.73   C
ATOM   1695  O   LEU B  96     13.213  12.221  55.516  1.00 22.46   O
ATOM   1696  N   GLN B  97     14.250  10.213  55.550  1.00 25.09   N
ATOM   1697  CA  GLN B  97     14.396  10.160  56.996  1.00 26.98   C
ATOM   1698  CB  GLN B  97     14.563   8.703  57.446  1.00 28.85   C
ATOM   1699  CG  GLN B  97     13.516   8.208  58.442  1.00 37.81   C
ATOM   1700  CD  GLN B  97     12.180   7.884  57.798  1.00 46.93   C
ATOM   1701  OE1 GLN B  97     12.107   7.113  56.840  1.00 52.64   O
ATOM   1702  NE2 GLN B  97     11.116   8.464  58.329  1.00 50.81   N
ATOM   1703  C   GLN B  97     15.611  10.969  57.433  1.00 26.07   C
ATOM   1704  O   GLN B  97     16.664  10.901  56.811  1.00 25.85   O
ATOM   1705  N   PRO B  98     15.489  11.725  58.533  1.00 27.95   N
ATOM   1706  CA  PRO B  98     16.634  12.522  58.991  1.00 28.20   C
ATOM   1707  CB  PRO B  98     16.143  13.128  60.310  1.00 27.26   C
ATOM   1708  CG  PRO B  98     14.649  12.996  60.249  1.00 31.44   C
ATOM   1709  CD  PRO B  98     14.448  11.672  59.567  1.00 26.47   C
ATOM   1710  C   PRO B  98     17.848  11.616  59.204  1.00 28.83   C
ATOM   1711  O   PRO B  98     17.701  10.470  59.647  1.00 30.17   O
ATOM   1712  N   ALA B  99     19.041  12.124  58.902  1.00 28.42   N
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ATOM   1713  CA  ALA B  99      20.254  11.331  59.076  1.00 28.17   C
ATOM   1714  CB  ALA B  99      20.883  11.034  57.709  1.00 26.53   C
ATOM   1715  C   ALA B  99      21.298  11.954  60.013  1.00 28.73   C
ATOM   1716  O   ALA B  99      22.477  12.021  59.681  1.00 30.28   O
ATOM   1717  N   GLY B 100      20.860  12.424  61.174  1.00 30.15   N
ATOM   1718  CA  GLY B 100      21.788  12.988  62.143  1.00 30.98   C
ATOM   1719  C   GLY B 100      22.332  14.399  61.954  1.00 32.27   C
ATOM   1720  O   GLY B 100      23.053  14.891  62.833  1.00 32.39   O
ATOM   1721  N   ALA B 101      22.005  15.050  60.836  1.00 30.10   N
ATOM   1722  CA  ALA B 101      22.483  16.407  60.575  1.00 28.93   C
ATOM   1723  CB  ALA B 101      23.926  16.364  60.098  1.00 29.35   C
ATOM   1724  C   ALA B 101      21.616  17.136  59.546  1.00 27.78   C
ATOM   1725  O   ALA B 101      21.133  16.536  58.587  1.00 27.81   O
ATOM   1726  N   PRO B 102      21.428  18.455  59.724  1.00 27.63   N
ATOM   1727  CA  PRO B 102      20.606  19.232  58.789  1.00 27.52   C
ATOM   1728  CB  PRO B 102      20.770  20.668  59.286  1.00 27.31   C
ATOM   1729  CG  PRO B 102      21.021  20.482  60.767  1.00 28.49   C
ATOM   1730  CD  PRO B 102      21.980  19.317  60.785  1.00 27.05   C
ATOM   1731  C   PRO B 102      21.060  19.069  57.345  1.00 26.25   C
ATOM   1732  O   PRO B 102      22.233  19.265  57.034  1.00 26.32   O
ATOM   1733  N   GLY B 103      20.125  18.706  56.471  1.00 24.95   N
ATOM   1734  CA  GLY B 103      20.448  18.533  55.066  1.00 23.66   C
ATOM   1735  C   GLY B 103      20.925  17.135  54.711  1.00 20.21   C
ATOM   1736  O   GLY B 103      21.343  16.895  53.578  1.00 21.21   O
ATOM   1737  N   HIS B 104      20.857  16.218  55.672  1.00 17.17   N
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ATOM   1738  CA  HIS B 104    21.280  14.844  55.451  1.00 19.03   C
ATOM   1739  CB  HIS B 104    22.481  14.536  56.334  1.00 17.66   C
ATOM   1740  CG  HIS B 104    23.672  15.379  56.015  1.00 21.52   C
ATOM   1741  ND1 HIS B 104    24.690  14.942  55.196  1.00 17.48   N
ATOM   1742  CE1 HIS B 104    25.546  15.929  55.002  1.00 19.71   C
ATOM   1743  NE2 HIS B 104    25.123  16.987  55.671  1.00 20.79   N
ATOM   1744  CD2 HIS B 104    23.956  16.669  56.318  1.00 19.37   C
ATOM   1745  C   HIS B 104    20.136  13.897  55.747  1.00 16.96   C
ATOM   1746  O   HIS B 104    19.540  13.953  56.810  1.00 16.73   O
ATOM   1747  N   TYR B 105    19.836  13.022  54.795  1.00 19.61   N
ATOM   1748  CA  TYR B 105    18.735  12.080  54.945  1.00 21.07   C
ATOM   1749  CB  TYR B 105    17.532  12.543  54.123  1.00 21.53   C
ATOM   1750  CG  TYR B 105    17.107  13.974  54.357  1.00 21.91   C
ATOM   1751  CD1 TYR B 105    16.219  14.302  55.389  1.00 20.70   C
ATOM   1752  CE1 TYR B 105    15.843  15.621  55.616  1.00 22.27   C
ATOM   1753  CZ  TYR B 105    16.354  16.636  54.807  1.00 23.20   C
ATOM   1754  OH  TYR B 105    15.977  17.950  55.020  1.00 23.16   O
ATOM   1755  CE2 TYR B 105    17.237  16.335  53.776  1.00 18.32   C
ATOM   1756  CD2 TYR B 105    17.608  15.007  53.555  1.00 21.82   C
ATOM   1757  C   TYR B 105    19.106  10.698  54.451  1.00 21.92   C
ATOM   1758  O   TYR B 105    20.104  10.514  53.763  1.00 23.47   O
ATOM   1759  N   THR B 106    18.267   9.733  54.790  1.00 24.22   N
ATOM   1760  CA  THR B 106    18.438   8.364  54.333  1.00 26.64   C
ATOM   1761  CB  THR B 106    18.666   7.393  55.504  1.00 25.91   C
ATOM   1762  OG1 THR B 106    17.607   7.541  56.463  1.00 30.22   O
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ATOM	1763	CG2	THR	B	106	20.011	7.689	56.174	1.00	26.89	C
ATOM	1764	C	THR	B	106	17.126	8.029	53.635	1.00	27.69	C
ATOM	1765	O	THR	B	106	16.056	8.487	54.057	1.00	25.39	O
ATOM	1766	N	TYR	B	107	17.214	7.253	52.561	1.00	29.73	N
ATOM	1767	CA	TYR	B	107	16.038	6.864	51.801	1.00	33.54	C
ATOM	1768	CB	TYR	B	107	15.924	7.714	50.537	1.00	33.57	C
ATOM	1769	CG	TYR	B	107	15.054	7.073	49.482	1.00	37.64	C
ATOM	1770	CD1	TYR	B	107	13.708	6.794	49.738	1.00	41.90	C
ATOM	1771	CE1	TYR	B	107	12.909	6.159	48.790	1.00	43.55	C
ATOM	1772	CZ	TYR	B	107	13.459	5.792	47.571	1.00	46.00	C
ATOM	1773	OH	TYR	B	107	12.673	5.158	46.635	1.00	49.14	O
ATOM	1774	CE2	TYR	B	107	14.796	6.060	47.292	1.00	43.74	C
ATOM	1775	CD2	TYR	B	107	15.583	6.702	48.247	1.00	38.84	C
ATOM	1776	C	TYR	B	107	16.061	5.388	51.420	1.00	36.23	C
ATOM	1777	O	TYR	B	107	17.018	4.899	50.818	1.00	35.45	O
ATOM	1778	N	SER	B	108	14.993	4.681	51.769	1.00	40.28	N
ATOM	1779	CA	SER	B	108	14.877	3.259	51.470	1.00	44.66	C
ATOM	1780	CB	SER	B	108	13.988	2.580	52.506	1.00	44.48	C
ATOM	1781	OG	SER	B	108	13.351	1.451	51.940	1.00	47.59	O
ATOM	1782	C	SER	B	108	14.306	2.996	50.086	1.00	47.15	C
ATOM	1783	O	SER	B	108	13.296	3.581	49.703	1.00	47.89	O
ATOM	1784	N	SER	B	109	14.943	2.094	49.348	1.00	50.48	N
ATOM	1785	CA	SER	B	109	14.487	1.751	48.007	1.00	53.87	C
ATOM	1786	CB	SER	B	109	15.609	1.994	46.993	1.00	54.04	C
ATOM	1787	OG	SER	B	109	15.234	1.547	45.700	1.00	57.33	O

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ATOM   1788  C   SER B 109    14.023   0.298  47.920  1.00 55.77   C
ATOM   1789  O   SER B 109    14.760  -0.567  47.445  1.00 55.70   O
ATOM   1790  N   PRO B 110    12.791   0.010  48.379  1.00 57.97   N
ATOM   1791  CA  PRO B 110    12.247  -1.352  48.342  1.00 59.41   C
ATOM   1792  CB  PRO B 110    10.771  -1.137  48.658  1.00 59.43   C
ATOM   1793  CG  PRO B 110    10.826  -0.010  49.639  1.00 59.26   C
ATOM   1794  CD  PRO B 110    11.814   0.940  48.977  1.00 58.27   C
ATOM   1795  C   PRO B 110    12.466  -2.035  46.994  1.00 60.89   C
ATOM   1796  O   PRO B 110    12.780  -3.225  46.941  1.00 61.42   O
ATOM   1797  N   HIS B 111    12.298  -1.279  45.908  1.00 62.25   N
ATOM   1798  CA  HIS B 111    12.501  -1.818  44.564  1.00 63.28   C
ATOM   1799  CB  HIS B 111    12.336  -0.724  43.502  1.00 64.21   C
ATOM   1800  CG  HIS B 111    10.952  -0.166  43.405  1.00 67.26   C
ATOM   1801  ND1 HIS B 111    10.332   0.482  44.453  1.00 69.85   N
ATOM   1802  CE1 HIS B 111    9.130   0.877  44.074  1.00 70.46   C
ATOM   1803  NE2 HIS B 111    8.946   0.508  42.818  1.00 70.26   N
ATOM   1804  CD2 HIS B 111    10.070  -0.146  42.377  1.00 69.17   C
ATOM   1805  C   HIS B 111    13.918  -2.370  44.469  1.00 62.59   C
ATOM   1806  O   HIS B 111    14.148  -3.571  44.615  1.00 63.03   O
ATOM   1807  N   SER B 112    14.862  -1.466  44.221  1.00 61.45   N
ATOM   1808  CA  SER B 112    16.272  -1.804  44.101  1.00 60.38   C
ATOM   1809  CB  SER B 112    17.115  -0.527  44.156  1.00 60.82   C
ATOM   1810  OG  SER B 112    18.482  -0.823  44.399  1.00 62.59   O
ATOM   1811  C   SER B 112    16.730  -2.749  45.200  1.00 58.84   C
ATOM   1812  O   SER B 112    17.523  -3.661  44.962  1.00 58.90   O
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ATOM   1813  N   GLY B 113   16.216  -2.529  46.405  1.00 57.13   N
ATOM   1814  CA  GLY B 113   16.618  -3.346  47.530  1.00 55.12   C
ATOM   1815  C   GLY B 113   17.859  -2.704  48.119  1.00 53.27   C
ATOM   1816  O   GLY B 113   18.847  -3.378  48.414  1.00 52.87   O
ATOM   1817  N   SER B 114   17.811  -1.384  48.274  1.00 51.27   N
ATOM   1818  CA  SER B 114   18.942  -0.654  48.827  1.00 49.51   C
ATOM   1819  CB  SER B 114   19.952  -0.353  47.719  1.00 50.16   C
ATOM   1820  OG  SER B 114   19.337   0.344  46.644  1.00 48.59   O
ATOM   1821  C   SER B 114   18.548   0.647  49.519  1.00 48.18   C
ATOM   1822  O   SER B 114   17.461   1.183  49.296  1.00 48.12   O
ATOM   1823  N   ILE B 115   19.445   1.133  50.372  1.00 46.06   N
ATOM   1824  CA  ILE B 115   19.248   2.383  51.100  1.00 44.42   C
ATOM   1825  CB  ILE B 115   19.600   2.237  52.606  1.00 44.90   C
ATOM   1826  CG1 ILE B 115   18.543   1.394  53.322  1.00 46.80   C
ATOM   1827  CD1 ILE B 115   17.184   2.066  53.435  1.00 45.52   C
ATOM   1828  CG2 ILE B 115   19.687   3.610  53.261  1.00 46.02   C
ATOM   1829  C   ILE B 115   20.189   3.412  50.480  1.00 41.86   C
ATOM   1830  O   ILE B 115   21.241   3.060  49.949  1.00 41.37   O
ATOM   1831  N   HIS B 116   19.799   4.681  50.534  1.00 39.40   N
ATOM   1832  CA  HIS B 116   20.613   5.749  49.974  1.00 36.16   C
ATOM   1833  CB  HIS B 116   19.902   6.413  48.783  1.00 36.63   C
ATOM   1834  CG  HIS B 116   19.458   5.460  47.714  1.00 37.67   C
ATOM   1835  ND1 HIS B 116   18.918   5.892  46.519  1.00 41.47   N
ATOM   1836  CE1 HIS B 116   18.570   4.847  45.790  1.00 40.60   C
ATOM   1837  NE2 HIS B 116   18.867   3.752  46.466  1.00 38.98   N
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ATOM   1838  CD2 HIS B 116      19.426   4.109  47.671  1.00 39.98   C
ATOM   1839  C   HIS B 116      20.874   6.810  51.037  1.00 33.97   C
ATOM   1840  O   HIS B 116      20.077   6.991  51.954  1.00 32.57   O
ATOM   1841  N   SER B 117      22.003   7.498  50.908  1.00 31.18   N
ATOM   1842  CA  SER B 117      22.379   8.564  51.828  1.00 30.38   C
ATOM   1843  CB  SER B 117      23.787   8.339  52.382  1.00 28.97   C
ATOM   1844  OG  SER B 117      23.801   7.236  53.268  1.00 35.19   O
ATOM   1845  C   SER B 117      22.336   9.840  51.009  1.00 28.86   C
ATOM   1846  O   SER B 117      23.181  10.058  50.139  1.00 28.75   O
ATOM   1847  N   VAL B 118      21.344  10.677  51.293  1.00 27.21   N
ATOM   1848  CA  VAL B 118      21.139  11.920  50.555  1.00 24.78   C
ATOM   1849  CB  VAL B 118      19.634  12.130  50.259  1.00 24.46   C
ATOM   1850  CG1 VAL B 118      19.417  13.417  49.484  1.00 25.74   C
ATOM   1851  CG2 VAL B 118      19.093  10.944  49.492  1.00 28.06   C
ATOM   1852  C   VAL B 118      21.644  13.155  51.281  1.00 24.11   C
ATOM   1853  O   VAL B 118      21.399  13.338  52.469  1.00 23.10   O
ATOM   1854  N   SER B 119      22.346  14.011  50.551  1.00 23.66   N
ATOM   1855  CA  SER B 119      22.838  15.238  51.135  1.00 23.20   C
ATOM   1856  CB  SER B 119      24.342  15.125  51.435  1.00 23.15   C
ATOM   1857  OG  SER B 119      25.095  14.833  50.271  1.00 27.22   O
ATOM   1858  C   SER B 119      22.563  16.397  50.188  1.00 21.37   C
ATOM   1859  O   SER B 119      22.489  16.216  48.978  1.00 20.94   O
ATOM   1860  N   VAL B 120      22.364  17.582  50.756  1.00 22.48   N
ATOM   1861  CA  VAL B 120      22.134  18.784  49.966  1.00 21.59   C
ATOM   1862  CB  VAL B 120      21.263  19.802  50.726  1.00 23.28   C
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ATOM   1863  CG1 VAL B 120     21.150  21.090  49.926  1.00 20.40   C
ATOM   1864  CG2 VAL B 120     19.861  19.218  50.963  1.00 23.55   C
ATOM   1865  C   VAL B 120     23.509  19.397  49.718  1.00 21.37   C
ATOM   1866  O   VAL B 120     24.131  19.938  50.628  1.00 20.79   O
ATOM   1867  N   VAL B 121     23.990  19.297  48.488  1.00 20.82   N
ATOM   1868  CA  VAL B 121     25.299  19.838  48.147  1.00 18.66   C
ATOM   1869  CB  VAL B 121     25.717  19.392  46.738  1.00 19.78   C
ATOM   1870  CG1 VAL B 121     27.081  20.006  46.358  1.00 20.77   C
ATOM   1871  CG2 VAL B 121     25.759  17.882  46.681  1.00 22.61   C
ATOM   1872  C   VAL B 121     25.274  21.362  48.192  1.00 18.80   C
ATOM   1873  O   VAL B 121     26.117  22.005  48.825  1.00 15.52   O
ATOM   1874  N   GLU B 122     24.285  21.931  47.524  1.00 18.78   N
ATOM   1875  CA  GLU B 122     24.139  23.376  47.447  1.00 20.84   C
ATOM   1876  CB  GLU B 122     25.021  23.914  46.321  1.00 20.82   C
ATOM   1877  CG  GLU B 122     25.154  25.410  46.270  1.00 23.89   C
ATOM   1878  CD  GLU B 122     26.095  25.847  45.169  1.00 28.52   C
ATOM   1879  OE1 GLU B 122     25.625  26.400  44.154  1.00 31.82   O
ATOM   1880  OE2 GLU B 122     27.311  25.618  45.314  1.00 29.06   O
ATOM   1881  C   GLU B 122     22.684  23.665  47.132  1.00 20.92   C
ATOM   1882  O   GLU B 122     22.026  22.865  46.460  1.00 20.92   O
ATOM   1883  N   ALA B 123     22.177  24.805  47.593  1.00 22.15   N
ATOM   1884  CA  ALA B 123     20.780  25.130  47.333  1.00 23.57   C
ATOM   1885  CB  ALA B 123     19.876  24.114  48.050  1.00 21.65   C
ATOM   1886  C   ALA B 123     20.361  26.545  47.714  1.00 24.94   C
ATOM   1887  O   ALA B 123     20.909  27.143  48.633  1.00 27.17   O
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ATOM   1888  N   ASN B 124   19.380  27.056  46.975  1.00 25.25   N
ATOM   1889  CA  ASN B 124   18.770  28.374  47.181  1.00 25.20   C
ATOM   1890  CB  ASN B 124   19.054  29.306  46.003  1.00 25.23   C
ATOM   1891  CG  ASN B 124   18.413  30.663  46.180  1.00 29.26   C
ATOM   1892  OD1 ASN B 124   17.257  30.770  46.594  1.00 26.62   O
ATOM   1893  ND2 ASN B 124   19.158  31.715  45.854  1.00 32.85   N
ATOM   1894  C   ASN B 124   17.288  28.034  47.191  1.00 23.20   C
ATOM   1895  O   ASN B 124   16.723  27.733  46.149  1.00 21.33   O
ATOM   1896  N   TYR B 125   16.657  28.088  48.359  1.00 23.13   N
ATOM   1897  CA  TYR B 125   15.259  27.704  48.475  1.00 24.00   C
ATOM   1898  CB  TYR B 125   14.801  27.806  49.934  1.00 25.22   C
ATOM   1899  CG  TYR B 125   15.077  29.124  50.607  1.00 28.94   C
ATOM   1900  CD1 TYR B 125   14.295  30.247  50.338  1.00 31.58   C
ATOM   1901  CE1 TYR B 125   14.559  31.469  50.950  1.00 34.01   C
ATOM   1902  CZ  TYR B 125   15.616  31.568  51.836  1.00 34.12   C
ATOM   1903  OH  TYR B 125   15.909  32.776  52.421  1.00 38.52   O
ATOM   1904  CE2 TYR B 125   16.404  30.462  52.123  1.00 34.39   C
ATOM   1905  CD2 TYR B 125   16.131  29.252  51.508  1.00 30.83   C
ATOM   1906  C   TYR B 125   14.253  28.380  47.551  1.00 24.08   C
ATOM   1907  O   TYR B 125   13.123  27.909  47.424  1.00 22.03   O
ATOM   1908  N   ASP B 126   14.652  29.468  46.900  1.00 23.69   N
ATOM   1909  CA  ASP B 126   13.753  30.150  45.976  1.00 24.21   C
ATOM   1910  CB  ASP B 126   13.891  31.668  46.068  1.00 25.29   C
ATOM   1911  CG  ASP B 126   13.295  32.230  47.316  1.00 26.34   C
ATOM   1912  OD1 ASP B 126   12.139  31.869  47.625  1.00 29.25   O
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ATOM   1913  OD2 ASP B 126      13.985  33.038  47.974  1.00 27.99      O
ATOM   1914  C   ASP B 126      14.072  29.764  44.554  1.00 25.46      C
ATOM   1915  O   ASP B 126      13.380  30.180  43.624  1.00 26.59      O
ATOM   1916  N   GLU B 127      15.124  28.983  44.365  1.00 24.21      N
ATOM   1917  CA  GLU B 127      15.502  28.628  43.011  1.00 25.61      C
ATOM   1918  CB  GLU B 127      16.654  29.531  42.536  1.00 25.52      C
ATOM   1919  CG  GLU B 127      16.297  31.019  42.467  1.00 32.98      C
ATOM   1920  CD  GLU B 127      17.396  31.871  41.838  1.00 39.11      C
ATOM   1921  OE1 GLU B 127      17.852  31.547  40.719  1.00 41.53      O
ATOM   1922  OE2 GLU B 127      17.799  32.875  42.459  1.00 44.56      O
ATOM   1923  C   GLU B 127      15.870  27.184  42.745  1.00 23.89      C
ATOM   1924  O   GLU B 127      15.350  26.594  41.805  1.00 23.89      O
ATOM   1925  N   TYR B 128      16.751  26.603  43.554  1.00 23.39      N
ATOM   1926  CA  TYR B 128      17.169  25.240  43.274  1.00 22.92      C
ATOM   1927  CB  TYR B 128      18.173  25.266  42.126  1.00 21.87      C
ATOM   1928  CG  TYR B 128      19.509  25.847  42.552  1.00 24.09      C
ATOM   1929  CD1 TYR B 128      20.464  25.047  43.182  1.00 22.01      C
ATOM   1930  CE1 TYR B 128      21.647  25.578  43.659  1.00 24.98      C
ATOM   1931  CZ  TYR B 128      21.900  26.927  43.511  1.00 26.66      C
ATOM   1932  OH  TYR B 128      23.079  27.431  43.998  1.00 30.76      O
ATOM   1933  CE2 TYR B 128      20.979  27.755  42.885  1.00 29.10      C
ATOM   1934  CD2 TYR B 128      19.785  27.210  42.405  1.00 23.51      C
ATOM   1935  C   TYR B 128      17.790  24.506  44.452  1.00 22.50      C
ATOM   1936  O   TYR B 128      18.143  25.101  45.464  1.00 23.17      O
ATOM   1937  N   ALA B 129      17.939  23.196  44.280  1.00 23.06      N
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ATOM   1938  CA  ALA B 129     18.523  22.326  45.281  1.00 22.00   C
ATOM   1939  CB  ALA B 129     17.429  21.691  46.143  1.00 22.73   C
ATOM   1940  C   ALA B 129     19.300  21.251  44.546  1.00 23.97   C
ATOM   1941  O   ALA B 129     18.751  20.543  43.704  1.00 23.33   O
ATOM   1942  N   LEU B 130     20.588  21.154  44.858  1.00 23.49   N
ATOM   1943  CA  LEU B 130     21.465  20.166  44.250  1.00 24.77   C
ATOM   1944  CB  LEU B 130     22.806  20.807  43.893  1.00 24.15   C
ATOM   1945  CG  LEU B 130     23.789  19.994  43.047  1.00 30.51   C
ATOM   1946  CD1 LEU B 130     23.151  19.653  41.706  1.00 30.79   C
ATOM   1947  CD2 LEU B 130     25.075  20.800  42.840  1.00 28.10   C
ATOM   1948  C   LEU B 130     21.670  19.060  45.276  1.00 24.21   C
ATOM   1949  O   LEU B 130     22.287  19.285  46.322  1.00 25.91   O
ATOM   1950  N   LEU B 131     21.142  17.873  44.982  1.00 24.62   N
ATOM   1951  CA  LEU B 131     21.259  16.741  45.894  1.00 24.99   C
ATOM   1952  CB  LEU B 131     19.907  16.062  46.097  1.00 23.32   C
ATOM   1953  CG  LEU B 131     18.654  16.817  46.533  1.00 27.65   C
ATOM   1954  CD1 LEU B 131     17.598  15.779  46.854  1.00 27.12   C
ATOM   1955  CD2 LEU B 131     18.909  17.681  47.747  1.00 24.33   C
ATOM   1956  C   LEU B 131     22.238  15.681  45.406  1.00 26.69   C
ATOM   1957  O   LEU B 131     22.398  15.454  44.199  1.00 27.32   O
ATOM   1958  N   PHE B 132     22.894  15.035  46.362  1.00 26.02   N
ATOM   1959  CA  PHE B 132     23.820  13.969  46.052  1.00 26.25   C
ATOM   1960  CB  PHE B 132     25.237  14.305  46.493  1.00 26.48   C
ATOM   1961  CG  PHE B 132     26.221  13.193  46.239  1.00 30.21   C
ATOM   1962  CD1 PHE B 132     26.596  12.860  44.933  1.00 33.16   C
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ATOM   1963  CE1 PHE B 132      27.476  11.805  44.686  1.00 34.30      C
ATOM   1964  CZ  PHE B 132      27.992  11.071  45.751  1.00 34.39      C
ATOM   1965  CE2 PHE B 132      27.629  11.392  47.057  1.00 36.12      C
ATOM   1966  CD2 PHE B 132      26.746  12.452  47.296  1.00 32.16      C
ATOM   1967  C   PHE B 132      23.345  12.750  46.807  1.00 26.32      C
ATOM   1968  O   PHE B 132      23.065  12.816  48.001  1.00 27.04      O
ATOM   1969  N   SER B 133      23.231  11.640  46.099  1.00 27.21      N
ATOM   1970  CA  SER B 133      22.802  10.401  46.714  1.00 30.77      C
ATOM   1971  CB  SER B 133      21.440   9.993  46.170  1.00 30.65      C
ATOM   1972  OG  SER B 133      21.074   8.721  46.675  1.00 36.04      O
ATOM   1973  C   SER B 133      23.820   9.294  46.446  1.00 32.06      C
ATOM   1974  O   SER B 133      24.303   9.123  45.326  1.00 32.43      O
ATOM   1975  N   ARG B 134      24.169   8.559  47.487  1.00 33.25      N
ATOM   1976  CA  ARG B 134      25.104   7.465  47.334  1.00 35.64      C
ATOM   1977  CB  ARG B 134      26.446   7.788  48.007  1.00 34.49      C
ATOM   1978  CG  ARG B 134      26.345   8.228  49.450  1.00 37.30      C
ATOM   1979  CD  ARG B 134      27.377   9.305  49.764  1.00 38.87      C
ATOM   1980  NE  ARG B 134      27.331   9.725  51.162  1.00 39.78      N
ATOM   1981  CZ  ARG B 134      27.740   8.970  52.176  1.00 39.69      C
ATOM   1982  NH1 ARG B 134      28.229   7.757  51.945  1.00 42.68      N
ATOM   1983  NH2 ARG B 134      27.659   9.418  53.420  1.00 36.98      N
ATOM   1984  C   ARG B 134      24.479   6.221  47.930  1.00 36.40      C
ATOM   1985  O   ARG B 134      23.870   6.268  49.002  1.00 35.15      O
ATOM   1986  N   GLY B 135      24.603   5.119  47.198  1.00 38.19      N
ATOM   1987  CA  GLY B 135      24.066   3.846  47.642  1.00 41.62      C
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ATOM   1988  C   GLY B 135   25.098   2.763  47.406  1.00 44.13   C
ATOM   1989  O   GLY B 135   26.115   2.998  46.753  1.00 42.97   O
ATOM   1990  N   THR B 136   24.844   1.571  47.931  1.00 47.49   N
ATOM   1991  CA  THR B 136   25.777   0.471  47.764  1.00 50.61   C
ATOM   1992  CB  THR B 136   27.029   0.670  48.632  1.00 51.09   C
ATOM   1993  OG1 THR B 136   27.838  -0.514  48.580  1.00 52.66   O
ATOM   1994  CG2 THR B 136   26.635   0.975  50.071  1.00 52.23   C
ATOM   1995  C   THR B 136   25.148  -0.858  48.131  1.00 52.28   C
ATOM   1996  O   THR B 136   24.947  -1.158  49.306  1.00 52.60   O
ATOM   1997  N   LYS B 137   24.830  -1.651  47.114  1.00 53.62   N
ATOM   1998  CA  LYS B 137   24.238  -2.964  47.327  1.00 54.93   C
ATOM   1999  CB  LYS B 137   23.811  -3.563  45.986  1.00 55.60   C
ATOM   2000  CG  LYS B 137   22.315  -3.750  45.819  1.00 56.78   C
ATOM   2001  CD  LYS B 137   21.977  -4.167  44.384  1.00 58.70   C
ATOM   2002  CE  LYS B 137   22.698  -5.457  43.978  1.00 58.92   C
ATOM   2003  NZ  LYS B 137   22.598  -5.762  42.517  1.00 58.82   N
ATOM   2004  C   LYS B 137   25.245  -3.890  48.007  1.00 55.28   C
ATOM   2005  O   LYS B 137   24.880  -4.940  48.531  1.00 55.22   O
ATOM   2006  N   GLY B 138   26.515  -3.490  47.978  1.00 55.65   N
ATOM   2007  CA  GLY B 138   27.573  -4.277  48.584  1.00 55.72   C
ATOM   2008  C   GLY B 138   28.934  -3.779  48.145  1.00 55.93   C
ATOM   2009  O   GLY B 138   29.019  -2.852  47.334  1.00 55.96   O
ATOM   2010  N   PRO B 139   30.021  -4.374  48.662  1.00 55.62   N
ATOM   2011  CA  PRO B 139   31.381  -3.969  48.309  1.00 55.42   C
ATOM   2012  CB  PRO B 139   32.250  -4.922  49.125  1.00 55.83   C
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ATOM   2013  CG  PRO B 139      31.413  -5.209  50.321  1.00 55.60   C
ATOM   2014  CD  PRO B 139      30.048  -5.415  49.701  1.00 55.87   C
ATOM   2015  C   PRO B 139      31.682  -4.044  46.819  1.00 54.93   C
ATOM   2016  O   PRO B 139      32.059  -5.092  46.298  1.00 56.18   O
ATOM   2017  N   GLY B 140      31.505  -2.920  46.134  1.00 53.90   N
ATOM   2018  CA  GLY B 140      31.783  -2.864  44.705  1.00 52.20   C
ATOM   2019  C   GLY B 140      30.527  -2.585  43.913  1.00 51.21   C
ATOM   2020  O   GLY B 140      30.576  -2.319  42.713  1.00 51.38   O
ATOM   2021  N   GLN B 141      29.396  -2.665  44.603  1.00 49.60   N
ATOM   2022  CA  GLN B 141      28.103  -2.413  43.994  1.00 47.90   C
ATOM   2023  CB  GLN B 141      27.085  -3.474  44.431  1.00 47.88   C
ATOM   2024  CG  GLN B 141      27.328  -4.884  43.913  1.00 46.95   C
ATOM   2025  CD  GLN B 141      26.237  -5.858  44.349  1.00 45.80   C
ATOM   2026  OE1 GLN B 141      26.126  -6.201  45.522  1.00 46.77   O
ATOM   2027  NE2 GLN B 141      25.422  -6.296  43.401  1.00 44.27   N
ATOM   2028  C   GLN B 141      27.622  -1.030  44.429  1.00 46.82   C
ATOM   2029  O   GLN B 141      26.440  -0.827  44.695  1.00 45.66   O
ATOM   2030  N   ASN B 142      28.557  -0.086  44.493  1.00 45.91   N
ATOM   2031  CA  ASN B 142      28.275   1.284  44.906  1.00 44.46   C
ATOM   2032  CB  ASN B 142      29.542   1.943  45.455  1.00 44.95   C
ATOM   2033  CG  ASN B 142      30.593   0.932  45.861  1.00 46.96   C
ATOM   2034  OD1 ASN B 142      30.373   0.115  46.759  1.00 51.35   O
ATOM   2035  ND2 ASN B 142      31.745   0.978  45.197  1.00 47.04   N
ATOM   2036  C   ASN B 142      27.778   2.110  43.740  1.00 43.18   C
ATOM   2037  O   ASN B 142      28.372   2.092  42.669  1.00 42.88   O
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ATOM   2038  N   PHE B 143    26.689   2.837  43.943  1.00 40.49   N
ATOM   2039  CA  PHE B 143    26.172   3.688  42.885  1.00 39.21   C
ATOM   2040  CB  PHE B 143    24.855   3.120  42.335  1.00 39.22   C
ATOM   2041  CG  PHE B 143    23.646   3.464  43.147  1.00 41.52   C
ATOM   2042  CD1 PHE B 143    23.104   4.743  43.097  1.00 43.86   C
ATOM   2043  CE1 PHE B 143    21.971   5.063  43.823  1.00 46.05   C
ATOM   2044  CZ  PHE B 143    21.363   4.097  44.612  1.00 47.94   C
ATOM   2045  CE2 PHE B 143    21.893   2.813  44.673  1.00 44.88   C
ATOM   2046  CD2 PHE B 143    23.029   2.503  43.940  1.00 43.37   C
ATOM   2047  C   PHE B 143    25.991   5.110  43.420  1.00 37.46   C
ATOM   2048  O   PHE B 143    25.731   5.308  44.607  1.00 35.21   O
ATOM   2049  N   ARG B 144    26.143   6.090  42.537  1.00 35.85   N
ATOM   2050  CA  ARG B 144    26.013   7.494  42.902  1.00 35.66   C
ATOM   2051  CB  ARG B 144    27.356   8.201  42.737  1.00 37.36   C
ATOM   2052  CG  ARG B 144    28.516   7.552  43.461  1.00 40.81   C
ATOM   2053  CD  ARG B 144    29.802   8.273  43.113  1.00 47.72   C
ATOM   2054  NE  ARG B 144    30.956   7.704  43.796  1.00 52.59   N
ATOM   2055  CZ  ARG B 144    32.207   8.103  43.596  1.00 56.44   C
ATOM   2056  NH1 ARG B 144    32.461   9.076  42.732  1.00 59.03   N
ATOM   2057  NH2 ARG B 144    33.202   7.525  44.254  1.00 58.04   N
ATOM   2058  C   ARG B 144    24.985   8.207  42.025  1.00 34.31   C
ATOM   2059  O   ARG B 144    24.860   7.913  40.835  1.00 32.59   O
ATOM   2060  N   MET B 145    24.260   9.157  42.605  1.00 32.17   N
ATOM   2061  CA  MET B 145    23.270   9.900  41.842  1.00 31.38   C
ATOM   2062  CB  MET B 145    21.907   9.224  41.957  1.00 32.20   C
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ATOM   2063  CG  MET B 145     20.805  10.000  41.282  1.00 36.58   C
ATOM   2064  SD  MET B 145     19.260   9.102  41.257  1.00 41.13   S
ATOM   2065  CE  MET B 145     18.612   9.475  42.864  1.00 39.42   C
ATOM   2066  C   MET B 145     23.146  11.371  42.239  1.00 30.58   C
ATOM   2067  O   MET B 145     22.959  11.707  43.413  1.00 29.84   O
ATOM   2068  N   ALA B 146     23.261  12.241  41.241  1.00 28.92   N
ATOM   2069  CA  ALA B 146     23.136  13.681  41.429  1.00 26.73   C
ATOM   2070  CB  ALA B 146     24.231  14.409  40.666  1.00 26.72   C
ATOM   2071  C   ALA B 146     21.765  14.101  40.904  1.00 26.22   C
ATOM   2072  O   ALA B 146     21.378  13.743  39.792  1.00 25.15   O
ATOM   2073  N   THR B 147     21.034  14.858  41.712  1.00 26.04   N
ATOM   2074  CA  THR B 147     19.707  15.320  41.335  1.00 24.43   C
ATOM   2075  CB  THR B 147     18.635  14.690  42.225  1.00 24.48   C
ATOM   2076  OG1 THR B 147     18.895  13.287  42.346  1.00 28.38   O
ATOM   2077  CG2 THR B 147     17.255  14.891  41.617  1.00 24.67   C
ATOM   2078  C   THR B 147     19.606  16.837  41.464  1.00 23.63   C
ATOM   2079  O   THR B 147     20.044  17.422  42.462  1.00 22.67   O
ATOM   2080  N   LEU B 148     19.033  17.472  40.448  1.00 22.08   N
ATOM   2081  CA  LEU B 148     18.861  18.919  40.465  1.00 21.25   C
ATOM   2082  CB  LEU B 148     19.545  19.556  39.255  1.00 22.23   C
ATOM   2083  CG  LEU B 148     19.335  21.066  39.029  1.00 23.35   C
ATOM   2084  CD1 LEU B 148     19.992  21.874  40.123  1.00 24.17   C
ATOM   2085  CD2 LEU B 148     19.920  21.453  37.696  1.00 25.57   C
ATOM   2086  C   LEU B 148     17.383  19.275  40.467  1.00 20.22   C
ATOM   2087  O   LEU B 148     16.664  18.997  39.510  1.00 19.83   O
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ATOM	2088	N	TYR	B	149	16.937	19.865	41.567	1.00	20.43	N
ATOM	2089	CA	TYR	B	149	15.552	20.297	41.715	1.00	21.42	C
ATOM	2090	CB	TYR	B	149	15.058	20.016	43.132	1.00	22.01	C
ATOM	2091	CG	TYR	B	149	14.633	18.591	43.344	1.00	23.22	C
ATOM	2092	CD1	TYR	B	149	13.435	18.123	42.820	1.00	27.87	C
ATOM	2093	CE1	TYR	B	149	13.022	16.814	43.019	1.00	29.19	C
ATOM	2094	CZ	TYR	B	149	13.815	15.955	43.746	1.00	30.82	C
ATOM	2095	OH	TYR	B	149	13.394	14.659	43.937	1.00	37.77	O
ATOM	2096	CE2	TYR	B	149	15.020	16.390	44.277	1.00	30.92	C
ATOM	2097	CD2	TYR	B	149	15.423	17.705	44.075	1.00	27.50	C
ATOM	2098	C	TYR	B	149	15.482	21.789	41.434	1.00	21.29	C
ATOM	2099	O	TYR	B	149	16.435	22.530	41.707	1.00	20.13	O
ATOM	2100	N	SER	B	150	14.350	22.223	40.895	1.00	21.81	N
ATOM	2101	CA	SER	B	150	14.144	23.623	40.557	1.00	22.08	C
ATOM	2102	CB	SER	B	150	14.355	23.807	39.050	1.00	23.22	C
ATOM	2103	OG	SER	B	150	14.148	25.147	38.655	1.00	20.11	O
ATOM	2104	C	SER	B	150	12.745	24.116	40.946	1.00	22.46	C
ATOM	2105	O	SER	B	150	11.767	23.378	40.830	1.00	20.73	O
ATOM	2106	N	ARG	B	151	12.659	25.360	41.411	1.00	22.10	N
ATOM	2107	CA	ARG	B	151	11.373	25.934	41.777	1.00	22.76	C
ATOM	2108	CB	ARG	B	151	11.561	27.252	42.541	1.00	20.89	C
ATOM	2109	CG	ARG	B	151	12.009	27.087	43.994	1.00	19.59	C
ATOM	2110	CD	ARG	B	151	10.946	26.397	44.861	1.00	14.05	C
ATOM	2111	NE	ARG	B	151	11.344	26.371	46.270	1.00	16.55	N
ATOM	2112	CZ	ARG	B	151	10.649	25.800	47.250	1.00	17.56	C

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ATOM   2113  NH1 ARG B 151    9.501  25.182  46.998  1.00 18.38   N
ATOM   2114  NH2 ARG B 151   11.096  25.867  48.496  1.00 16.44   N
ATOM   2115  C   ARG B 151   10.573  26.184  40.497  1.00 25.21   C
ATOM   2116  O   ARG B 151    9.351  26.262  40.524  1.00 25.14   O
ATOM   2117  N   THR B 152   11.275  26.294  39.373  1.00 26.93   N
ATOM   2118  CA  THR B 152   10.635  26.539  38.086  1.00 29.69   C
ATOM   2119  CB  THR B 152   11.167  27.824  37.451  1.00 29.18   C
ATOM   2120  OG1 THR B 152   12.569  27.667  37.190  1.00 32.70   O
ATOM   2121  CG2 THR B 152   10.956  29.007  38.377  1.00 30.82   C
ATOM   2122  C   THR B 152   10.922  25.403  37.116  1.00 31.23   C
ATOM   2123  O   THR B 152   11.878  24.645  37.293  1.00 31.69   O
ATOM   2124  N   GLN B 153   10.101  25.300  36.080  1.00 32.65   N
ATOM   2125  CA  GLN B 153   10.283  24.264  35.077  1.00 35.10   C
ATOM   2126  CB  GLN B 153    8.985  24.043  34.322  1.00 35.06   C
ATOM   2127  CG  GLN B 153    7.878  23.553  35.214  1.00 36.53   C
ATOM   2128  CD  GLN B 153    6.621  23.266  34.447  1.00 38.81   C
ATOM   2129  OE1 GLN B 153    6.607  22.421  33.560  1.00 42.69   O
ATOM   2130  NE2 GLN B 153    5.554  23.970  34.780  1.00 37.04   N
ATOM   2131  C   GLN B 153   11.394  24.614  34.100  1.00 36.36   C
ATOM   2132  O   GLN B 153   11.876  23.755  33.368  1.00 37.01   O
ATOM   2133  N   THR B 154   11.802  25.877  34.100  1.00 38.47   N
ATOM   2134  CA  THR B 154   12.862  26.341  33.217  1.00 40.05   C
ATOM   2135  CB  THR B 154   12.584  27.772  32.722  1.00 40.61   C
ATOM   2136  OG1 THR B 154   11.270  27.831  32.153  1.00 42.12   O
ATOM   2137  CG2 THR B 154   13.605  28.183  31.668  1.00 40.94   C
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ATOM   2138  C   THR B 154   14.169  26.333  33.992  1.00 40.87   C
ATOM   2139  O   THR B 154   14.198  26.665  35.180  1.00 42.00   O
ATOM   2140  N   LEU B 155   15.249  25.956  33.319  1.00 40.55   N
ATOM   2141  CA  LEU B 155   16.554  25.888  33.961  1.00 41.78   C
ATOM   2142  CB  LEU B 155   17.058  24.441  33.923  1.00 41.27   C
ATOM   2143  CG  LEU B 155   17.825  23.880  35.120  1.00 41.78   C
ATOM   2144  CD1 LEU B 155   16.977  23.974  36.390  1.00 36.65   C
ATOM   2145  CD2 LEU B 155   18.186  22.432  34.828  1.00 40.61   C
ATOM   2146  C   LEU B 155   17.556  26.810  33.266  1.00 42.44   C
ATOM   2147  O   LEU B 155   17.723  26.751  32.045  1.00 42.40   O
ATOM   2148  N   LYS B 156   18.214  27.667  34.041  1.00 42.99   N
ATOM   2149  CA  LYS B 156   19.206  28.580  33.485  1.00 43.59   C
ATOM   2150  CB  LYS B 156   19.458  29.743  34.449  1.00 43.63   C
ATOM   2151  CG  LYS B 156   18.268  30.680  34.561  1.00 45.43   C
ATOM   2152  CD  LYS B 156   18.510  31.823  35.528  1.00 45.63   C
ATOM   2153  CE  LYS B 156   17.297  32.749  35.567  1.00 47.26   C
ATOM   2154  NZ  LYS B 156   17.407  33.814  36.609  1.00 47.89   N
ATOM   2155  C   LYS B 156   20.509  27.836  33.203  1.00 43.26   C
ATOM   2156  O   LYS B 156   20.967  27.032  34.012  1.00 41.69   O
ATOM   2157  N   ASP B 157   21.098  28.110  32.045  1.00 44.05   N
ATOM   2158  CA  ASP B 157   22.340  27.463  31.637  1.00 44.05   C
ATOM   2159  CB  ASP B 157   22.901  28.163  30.402  1.00 45.56   C
ATOM   2160  CG  ASP B 157   22.056  27.924  29.172  1.00 46.47   C
ATOM   2161  OD1 ASP B 157   20.830  28.140  29.243  1.00 49.10   O
ATOM   2162  OD2 ASP B 157   22.619  27.521  28.134  1.00 50.45   O
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ATOM   2163  C   ASP B 157   23.403  27.410  32.732  1.00 43.87   C
ATOM   2164  O   ASP B 157   24.088  26.396  32.891  1.00 43.50   O
ATOM   2165  N   GLU B 158   23.548  28.492  33.487  1.00 43.29   N
ATOM   2166  CA  GLU B 158   24.536  28.512  34.555  1.00 42.24   C
ATOM   2167  CB  GLU B 158   24.580  29.895  35.211  1.00 43.13   C
ATOM   2168  CG  GLU B 158   23.234  30.592  35.298  1.00 45.98   C
ATOM   2169  CD  GLU B 158   23.329  32.071  34.947  1.00 48.36   C
ATOM   2170  OE1 GLU B 158   24.183  32.773  35.533  1.00 48.34   O
ATOM   2171  OE2 GLU B 158   22.545  32.529  34.085  1.00 49.65   O
ATOM   2172  C   GLU B 158   24.222  27.432  35.581  1.00 40.64   C
ATOM   2173  O   GLU B 158   25.115  26.915  36.250  1.00 39.52   O
ATOM   2174  N   LEU B 159   22.945  27.080  35.681  1.00 39.39   N
ATOM   2175  CA  LEU B 159   22.494  26.051  36.613  1.00 37.85   C
ATOM   2176  CB  LEU B 159   20.995  26.202  36.847  1.00 38.48   C
ATOM   2177  CG  LEU B 159   20.420  25.783  38.196  1.00 38.76   C
ATOM   2178  CD1 LEU B 159   21.193  26.457  39.314  1.00 39.56   C
ATOM   2179  CD2 LEU B 159   18.948  26.167  38.248  1.00 38.13   C
ATOM   2180  C   LEU B 159   22.806  24.687  36.005  1.00 37.07   C
ATOM   2181  O   LEU B 159   23.174  23.742  36.703  1.00 36.52   O
ATOM   2182  N   LYS B 160   22.661  24.591  34.690  1.00 36.16   N
ATOM   2183  CA  LYS B 160   22.968  23.358  33.992  1.00 35.31   C
ATOM   2184  CB  LYS B 160   22.590  23.471  32.517  1.00 36.22   C
ATOM   2185  CG  LYS B 160   21.096  23.433  32.231  1.00 37.33   C
ATOM   2186  CD  LYS B 160   20.848  23.347  30.727  1.00 38.65   C
ATOM   2187  CE  LYS B 160   19.369  23.283  30.398  1.00 40.87   C
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ATOM   2188  NZ  LYS B 160      19.138  23.283  28.921  1.00 44.32   N
ATOM   2189  C   LYS B 160      24.465  23.068  34.113  1.00 34.93   C
ATOM   2190  O   LYS B 160      24.875  21.920  34.311  1.00 34.72   O
ATOM   2191  N   GLU B 161      25.278  24.115  33.999  1.00 33.85   N
ATOM   2192  CA  GLU B 161      26.730  23.981  34.089  1.00 33.69   C
ATOM   2193  CB  GLU B 161      27.388  25.316  33.729  1.00 34.67   C
ATOM   2194  CG  GLU B 161      27.208  25.686  32.260  1.00 36.90   C
ATOM   2195  CD  GLU B 161      27.516  27.143  31.964  1.00 44.37   C
ATOM   2196  OE1 GLU B 161      28.518  27.668  32.504  1.00 44.62   O
ATOM   2197  OE2 GLU B 161      26.759  27.761  31.179  1.00 45.41   O
ATOM   2198  C   GLU B 161      27.163  23.522  35.478  1.00 32.63   C
ATOM   2199  O   GLU B 161      28.034  22.658  35.623  1.00 32.33   O
ATOM   2200  N   LYS B 162      26.542  24.088  36.503  1.00 32.15   N
ATOM   2201  CA  LYS B 162      26.868  23.700  37.862  1.00 31.19   C
ATOM   2202  CB  LYS B 162      26.037  24.515  38.858  1.00 32.11   C
ATOM   2203  CG  LYS B 162      26.316  24.191  40.317  1.00 30.24   C
ATOM   2204  CD  LYS B 162      25.256  24.803  41.226  1.00 29.84   C
ATOM   2205  CE  LYS B 162      25.296  26.322  41.201  1.00 28.84   C
ATOM   2206  NZ  LYS B 162      26.579  26.847  41.743  1.00 28.90   N
ATOM   2207  C   LYS B 162      26.595  22.209  38.044  1.00 29.86   C
ATOM   2208  O   LYS B 162      27.412  21.490  38.612  1.00 30.46   O
ATOM   2209  N   PHE B 163      25.450  21.751  37.546  1.00 29.69   N
ATOM   2210  CA  PHE B 163      25.054  20.346  37.655  1.00 29.00   C
ATOM   2211  CB  PHE B 163      23.648  20.157  37.071  1.00 28.39   C
ATOM   2212  CG  PHE B 163      23.074  18.795  37.301  1.00 26.32   C
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ATOM	2213	CD1	PHE	B	163	22.834	18.337	38.587	1.00	22.99	C
ATOM	2214	CE1	PHE	B	163	22.304	17.077	38.802	1.00	22.53	C
ATOM	2215	CZ	PHE	B	163	22.007	16.256	37.723	1.00	21.90	C
ATOM	2216	CE2	PHE	B	163	22.239	16.698	36.440	1.00	25.70	C
ATOM	2217	CD2	PHE	B	163	22.771	17.963	36.231	1.00	26.75	C
ATOM	2218	C	PHE	B	163	26.038	19.432	36.933	1.00	29.29	C
ATOM	2219	O	PHE	B	163	26.504	18.434	37.487	1.00	30.36	O
ATOM	2220	N	THR	B	164	26.348	19.772	35.688	1.00	30.76	N
ATOM	2221	CA	THR	B	164	27.291	18.981	34.904	1.00	31.26	C
ATOM	2222	CB	THR	B	164	27.446	19.556	33.478	1.00	30.79	C
ATOM	2223	OG1	THR	B	164	26.173	19.540	32.817	1.00	32.00	O
ATOM	2224	CG2	THR	B	164	28.432	18.716	32.664	1.00	33.63	C
ATOM	2225	C	THR	B	164	28.657	18.958	35.595	1.00	30.45	C
ATOM	2226	O	THR	B	164	29.313	17.915	35.660	1.00	31.24	O
ATOM	2227	N	THR	B	165	29.079	20.107	36.114	1.00	30.54	N
ATOM	2228	CA	THR	B	165	30.359	20.202	36.811	1.00	31.33	C
ATOM	2229	CB	THR	B	165	30.640	21.648	37.243	1.00	31.71	C
ATOM	2230	OG1	THR	B	165	30.720	22.475	36.078	1.00	32.17	O
ATOM	2231	CG2	THR	B	165	31.945	21.738	38.013	1.00	31.92	C
ATOM	2232	C	THR	B	165	30.385	19.305	38.050	1.00	31.31	C
ATOM	2233	O	THR	B	165	31.304	18.499	38.228	1.00	30.04	O
ATOM	2234	N	PHE	B	166	29.378	19.451	38.908	1.00	31.86	N
ATOM	2235	CA	PHE	B	166	29.300	18.635	40.111	1.00	32.35	C
ATOM	2236	CB	PHE	B	166	28.069	19.007	40.939	1.00	31.30	C
ATOM	2237	CG	PHE	B	166	27.861	18.121	42.138	1.00	34.42	C

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ATOM   2238  CD1 PHE B 166      28.755  18.149  43.206  1.00 32.31      C
ATOM   2239  CE1 PHE B 166      28.580  17.302  44.303  1.00 28.62      C
ATOM   2240  CZ  PHE B 166      27.505  16.420  44.337  1.00 29.27      C
ATOM   2241  CE2 PHE B 166      26.610  16.386  43.281  1.00 34.35      C
ATOM   2242  CD2 PHE B 166      26.790  17.234  42.187  1.00 33.74      C
ATOM   2243  C   PHE B 166      29.224  17.153  39.739  1.00 32.79      C
ATOM   2244  O   PHE B 166      29.836  16.304  40.398  1.00 34.11      O
ATOM   2245  N   SER B 167      28.471  16.847  38.687  1.00 33.75      N
ATOM   2246  CA  SER B 167      28.311  15.464  38.245  1.00 33.72      C
ATOM   2247  CB  SER B 167      27.298  15.385  37.102  1.00 32.77      C
ATOM   2248  OG  SER B 167      26.006  15.736  37.551  1.00 32.40      O
ATOM   2249  C   SER B 167      29.629  14.854  37.791  1.00 34.67      C
ATOM   2250  O   SER B 167      29.936  13.701  38.102  1.00 34.94      O
ATOM   2251  N   LYS B 168      30.404  15.630  37.048  1.00 35.59      N
ATOM   2252  CA  LYS B 168      31.679  15.145  36.555  1.00 36.93      C
ATOM   2253  CB  LYS B 168      32.221  16.099  35.488  1.00 37.02      C
ATOM   2254  CG  LYS B 168      31.407  16.084  34.194  1.00 38.92      C
ATOM   2255  CD  LYS B 168      31.949  17.072  33.171  1.00 39.84      C
ATOM   2256  CE  LYS B 168      31.218  16.942  31.845  1.00 42.88      C
ATOM   2257  NZ  LYS B 168      31.693  17.934  30.832  1.00 42.91      N
ATOM   2258  C   LYS B 168      32.658  15.002  37.713  1.00 37.30      C
ATOM   2259  O   LYS B 168      33.441  14.053  37.758  1.00 36.54      O
ATOM   2260  N   ALA B 169      32.589  15.934  38.661  1.00 38.00      N
ATOM   2261  CA  ALA B 169      33.460  15.906  39.828  1.00 38.86      C
ATOM   2262  CB  ALA B 169      33.263  17.165  40.655  1.00 37.89      C
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ATOM	2263	C	ALA	B	169	33.171	14.670	40.671	1.00	39.70	C
ATOM	2264	O	ALA	B	169	33.854	14.408	41.660	1.00	41.32	O
ATOM	2265	N	GLN	B	170	32.157	13.910	40.275	1.00	40.38	N
ATOM	2266	CA	GLN	B	170	31.785	12.696	40.992	1.00	39.99	C
ATOM	2267	CB	GLN	B	170	30.317	12.763	41.415	1.00	39.42	C
ATOM	2268	CG	GLN	B	170	30.049	13.757	42.528	1.00	36.89	C
ATOM	2269	CD	GLN	B	170	30.870	13.469	43.770	1.00	37.17	C
ATOM	2270	OE1	GLN	B	170	30.931	12.327	44.235	1.00	36.89	O
ATOM	2271	NE2	GLN	B	170	31.502	14.501	44.317	1.00	33.10	N
ATOM	2272	C	GLN	B	170	32.019	11.456	40.137	1.00	40.67	C
ATOM	2273	O	GLN	B	170	31.554	10.361	40.464	1.00	40.53	O
ATOM	2274	N	GLY	B	171	32.739	11.637	39.034	1.00	42.18	N
ATOM	2275	CA	GLY	B	171	33.031	10.519	38.158	1.00	42.99	C
ATOM	2276	C	GLY	B	171	31.891	10.138	37.234	1.00	44.08	C
ATOM	2277	O	GLY	B	171	31.738	8.970	36.870	1.00	44.03	O
ATOM	2278	N	LEU	B	172	31.077	11.118	36.861	1.00	44.44	N
ATOM	2279	CA	LEU	B	172	29.966	10.863	35.957	1.00	44.81	C
ATOM	2280	CB	LEU	B	172	28.664	11.432	36.524	1.00	45.23	C
ATOM	2281	CG	LEU	B	172	28.158	10.879	37.858	1.00	44.93	C
ATOM	2282	CD1	LEU	B	172	26.829	11.536	38.188	1.00	45.43	C
ATOM	2283	CD2	LEU	B	172	27.993	9.368	37.783	1.00	45.17	C
ATOM	2284	C	LEU	B	172	30.281	11.524	34.624	1.00	45.45	C
ATOM	2285	O	LEU	B	172	30.717	12.675	34.576	1.00	45.61	O
ATOM	2286	N	THR	B	173	30.073	10.788	33.541	1.00	45.63	N
ATOM	2287	CA	THR	B	173	30.338	11.309	32.209	1.00	46.03	C

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ATOM   2288  CB  THR B 173      30.765  10.183  31.267  1.00 45.95   C
ATOM   2289  OG1 THR B 173      29.743   9.183  31.228  1.00 47.13   O
ATOM   2290  CG2 THR B 173      32.054   9.545  31.761  1.00 46.88   C
ATOM   2291  C   THR B 173      29.089  11.981  31.651  1.00 45.65   C
ATOM   2292  O   THR B 173      27.991  11.801  32.179  1.00 45.14   O
ATOM   2293  N   GLU B 174      29.260  12.751  30.581  1.00 45.76   N
ATOM   2294  CA  GLU B 174      28.140  13.448  29.969  1.00 45.79   C
ATOM   2295  CB  GLU B 174      28.615  14.278  28.777  1.00 46.84   C
ATOM   2296  CG  GLU B 174      29.518  15.428  29.181  1.00 49.10   C
ATOM   2297  CD  GLU B 174      29.375  16.630  28.273  1.00 51.93   C
ATOM   2298  OE1 GLU B 174      29.639  16.496  27.058  1.00 53.25   O
ATOM   2299  OE2 GLU B 174      28.993  17.709  28.775  1.00 50.59   O
ATOM   2300  C   GLU B 174      27.032  12.501  29.541  1.00 44.90   C
ATOM   2301  O   GLU B 174      25.850  12.846  29.615  1.00 45.22   O
ATOM   2302  N   GLU B 175      27.401  11.304  29.100  1.00 43.45   N
ATOM   2303  CA  GLU B 175      26.389  10.341  28.693  1.00 42.73   C
ATOM   2304  CB  GLU B 175      27.028   9.121  28.017  1.00 43.30   C
ATOM   2305  CG  GLU B 175      28.093   8.403  28.815  1.00 47.17   C
ATOM   2306  CD  GLU B 175      27.817   6.913  28.917  1.00 52.72   C
ATOM   2307  OE1 GLU B 175      27.495   6.295  27.877  1.00 54.49   O
ATOM   2308  OE2 GLU B 175      27.922   6.359  30.034  1.00 54.58   O
ATOM   2309  C   GLU B 175      25.582   9.918  29.916  1.00 40.71   C
ATOM   2310  O   GLU B 175      24.478   9.390  29.793  1.00 40.87   O
ATOM   2311  N   ASP B 176      26.136  10.166  31.099  1.00 39.09   N
ATOM   2312  CA  ASP B 176      25.460   9.826  32.345  1.00 38.13   C
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ATOM   2313  CB  ASP B 176      26.465   9.332  33.391  1.00 38.20      C
ATOM   2314  CG  ASP B 176      26.930   7.910  33.132  1.00 38.78      C
ATOM   2315  OD1 ASP B 176      26.083   7.055  32.782  1.00 36.70      O
ATOM   2316  OD2 ASP B 176      28.139   7.644  33.296  1.00 40.22      O
ATOM   2317  C   ASP B 176      24.693  11.019  32.912  1.00 36.59      C
ATOM   2318  O   ASP B 176      24.104  10.930  33.982  1.00 36.42      O
ATOM   2319  N   ILE B 177      24.698  12.130  32.191  1.00 35.68      N
ATOM   2320  CA  ILE B 177      24.017  13.332  32.650  1.00 34.90      C
ATOM   2321  CB  ILE B 177      25.009  14.507  32.722  1.00 35.58      C
ATOM   2322  CG1 ILE B 177      26.172  14.132  33.649  1.00 33.32      C
ATOM   2323  CD1 ILE B 177      27.339  15.103  33.605  1.00 34.46      C
ATOM   2324  CG2 ILE B 177      24.301  15.762  33.207  1.00 34.43      C
ATOM   2325  C   ILE B 177      22.855  13.697  31.729  1.00 34.02      C
ATOM   2326  O   ILE B 177      23.002  13.704  30.509  1.00 33.69      O
ATOM   2327  N   VAL B 178      21.701  13.996  32.316  1.00 32.85      N
ATOM   2328  CA  VAL B 178      20.532  14.345  31.517  1.00 31.32      C
ATOM   2329  CB  VAL B 178      19.650  13.107  31.252  1.00 31.12      C
ATOM   2330  CG1 VAL B 178      19.180  12.513  32.563  1.00 31.16      C
ATOM   2331  CG2 VAL B 178      18.445  13.500  30.400  1.00 33.20      C
ATOM   2332  C   VAL B 178      19.637  15.412  32.122  1.00 29.38      C
ATOM   2333  O   VAL B 178      19.302  15.355  33.295  1.00 30.40      O
ATOM   2334  N   PHE B 179      19.248  16.387  31.308  1.00 28.78      N
ATOM   2335  CA  PHE B 179      18.341  17.438  31.759  1.00 28.53      C
ATOM   2336  CB  PHE B 179      18.737  18.786  31.143  1.00 27.73      C
ATOM   2337  CG  PHE B 179      20.042  19.315  31.684  1.00 29.80      C
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ATOM   2338  CD1 PHE B 179     20.116  19.813  32.983  1.00 30.84   C
ATOM   2339  CE1 PHE B 179     21.336  20.190  33.544  1.00 32.23   C
ATOM   2340  CZ  PHE B 179     22.502  20.072  32.797  1.00 34.74   C
ATOM   2341  CE2 PHE B 179     22.443  19.582  31.492  1.00 33.64   C
ATOM   2342  CD2 PHE B 179     21.215  19.209  30.942  1.00 32.32   C
ATOM   2343  C   PHE B 179     16.956  16.974  31.331  1.00 29.31   C
ATOM   2344  O   PHE B 179     16.622  16.949  30.143  1.00 29.18   O
ATOM   2345  N   LEU B 180     16.178  16.565  32.330  1.00 30.16   N
ATOM   2346  CA  LEU B 180     14.836  16.031  32.150  1.00 29.93   C
ATOM   2347  CB  LEU B 180     14.245  15.708  33.524  1.00 30.00   C
ATOM   2348  CG  LEU B 180     15.155  14.806  34.375  1.00 30.73   C
ATOM   2349  CD1 LEU B 180     14.558  14.593  35.762  1.00 26.95   C
ATOM   2350  CD2 LEU B 180     15.352  13.468  33.672  1.00 26.54   C
ATOM   2351  C   LEU B 180     13.887  16.912  31.351  1.00 30.61   C
ATOM   2352  O   LEU B 180     13.620  18.057  31.720  1.00 30.66   O
ATOM   2353  N   PRO B 181     13.362  16.382  30.232  1.00 32.29   N
ATOM   2354  CA  PRO B 181     12.437  17.139  29.388  1.00 33.25   C
ATOM   2355  CB  PRO B 181     12.331  16.276  28.134  1.00 33.09   C
ATOM   2356  CG  PRO B 181     12.459  14.902  28.676  1.00 33.42   C
ATOM   2357  CD  PRO B 181     13.589  15.036  29.674  1.00 30.91   C
ATOM   2358  C   PRO B 181     11.091  17.341  30.070  1.00 34.85   C
ATOM   2359  O   PRO B 181     10.603  16.463  30.773  1.00 33.36   O
ATOM   2360  N   GLN B 182     10.509  18.517  29.853  1.00 37.61   N
ATOM   2361  CA  GLN B 182      9.220  18.878  30.421  1.00 41.17   C
ATOM   2362  CB  GLN B 182      8.963  20.365  30.174  1.00 41.43   C
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ATOM   2363  CG  GLN B 182     7.645  20.876  30.706  1.00 43.12   C
ATOM   2364  CD  GLN B 182     7.403  22.321  30.326  1.00 46.68   C
ATOM   2365  OE1 GLN B 182     8.151  23.214  30.729  1.00 45.85   O
ATOM   2366  NE2 GLN B 182     6.360  22.559  29.536  1.00 46.64   N
ATOM   2367  C   GLN B 182     8.095  18.043  29.805  1.00 42.85   C
ATOM   2368  O   GLN B 182     7.862  18.090  28.602  1.00 43.90   O
ATOM   2369  N   PRO B 183     7.390  17.257  30.629  1.00 44.63   N
ATOM   2370  CA  PRO B 183     6.288  16.416  30.150  1.00 46.17   C
ATOM   2371  CB  PRO B 183     5.904  15.610  31.390  1.00 45.60   C
ATOM   2372  CG  PRO B 183     7.167  15.564  32.173  1.00 45.82   C
ATOM   2373  CD  PRO B 183     7.687  16.964  32.038  1.00 44.40   C
ATOM   2374  C   PRO B 183     5.130  17.272  29.657  1.00 47.47   C
ATOM   2375  O   PRO B 183     4.973  18.413  30.091  1.00 47.66   O
ATOM   2376  N   ASP B 184     4.319  16.726  28.757  1.00 49.52   N
ATOM   2377  CA  ASP B 184     3.181  17.470  28.239  1.00 52.24   C
ATOM   2378  CB  ASP B 184     2.737  16.898  26.891  1.00 52.89   C
ATOM   2379  CG  ASP B 184     2.513  17.982  25.849  1.00 55.95   C
ATOM   2380  OD1 ASP B 184     3.480  18.715  25.534  1.00 57.87   O
ATOM   2381  OD2 ASP B 184     1.373  18.107  25.346  1.00 61.13   O
ATOM   2382  C   ASP B 184     2.034  17.410  29.248  1.00 53.04   C
ATOM   2383  O   ASP B 184     1.228  18.332  29.343  1.00 53.26   O
ATOM   2384  N   LYS B 185     1.975  16.321  30.007  1.00 54.24   N
ATOM   2385  CA  LYS B 185     0.945  16.148  31.024  1.00 55.51   C
ATOM   2386  CB  LYS B 185    -0.080  15.100  30.578  1.00 55.50   C
ATOM   2387  CG  LYS B 185     0.500  13.738  30.233  1.00 57.16   C
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ATOM   2388  CD  LYS B 185    -0.576  12.827  29.658  1.00 59.05   C
ATOM   2389  CE  LYS B 185     0.029  11.582  29.027  1.00 60.15   C
ATOM   2390  NZ  LYS B 185    -0.982  10.804  28.253  1.00 62.13   N
ATOM   2391  C   LYS B 185     1.569  15.728  32.351  1.00 55.95   C
ATOM   2392  O   LYS B 185     2.792  15.651  32.472  1.00 55.12   O
ATOM   2393  N   CYS B 186     0.716  15.473  33.340  1.00 57.05   N
ATOM   2394  CA  CYS B 186     1.139  15.050  34.675  1.00 58.53   C
ATOM   2395  CB  CYS B 186     2.096  13.857  34.595  1.00 57.56   C
ATOM   2396  SG  CYS B 186     1.530  12.467  33.576  1.00 54.12   S
ATOM   2397  C   CYS B 186     1.815  16.131  35.513  1.00 60.82   C
ATOM   2398  O   CYS B 186     2.384  15.823  36.559  1.00 61.78   O
ATOM   2399  N   ILE B 187     1.763  17.387  35.080  1.00 63.56   N
ATOM   2400  CA  ILE B 187     2.415  18.454  35.839  1.00 66.53   C
ATOM   2401  CB  ILE B 187     3.874  18.652  35.363  1.00 66.78   C
ATOM   2402  CG1 ILE B 187     4.702  17.408  35.696  1.00 66.73   C
ATOM   2403  CD1 ILE B 187     6.159  17.512  35.298  1.00 69.46   C
ATOM   2404  CG2 ILE B 187     4.487  19.879  36.026  1.00 67.81   C
ATOM   2405  C   ILE B 187     1.711  19.806  35.806  1.00 68.53   C
ATOM   2406  O   ILE B 187     1.952  20.651  36.669  1.00 69.20   O
ATOM   2407  N   GLN B 188     0.855  20.003  34.805  1.00 71.16   N
ATOM   2408  CA  GLN B 188     0.093  21.243  34.635  1.00 73.58   C
ATOM   2409  CB  GLN B 188    -0.529  21.695  35.961  1.00 73.62   C
ATOM   2410  CG  GLN B 188    -1.130  20.595  36.807  1.00 75.18   C
ATOM   2411  CD  GLN B 188    -1.452  21.083  38.206  1.00 78.27   C
ATOM   2412  OE1 GLN B 188    -0.749  21.937  38.748  1.00 79.42   O
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ATOM   2413  NE2 GLN B 188    -2.502  20.535  38.806  1.00 78.56   N
ATOM   2414  C   GLN B 188     0.950  22.385  34.095  1.00 75.04   C
ATOM   2415  O   GLN B 188     0.985  23.464  34.687  1.00 75.36   O
ATOM   2416  N   GLU B 189     1.628  22.136  32.977  1.00 76.95   N
ATOM   2417  CA  GLU B 189     2.494  23.116  32.311  1.00 78.69   C
ATOM   2418  CB  GLU B 189     3.166  24.058  33.320  1.00 79.07   C
ATOM   2419  CG  GLU B 189     2.460  25.402  33.534  1.00 81.42   C
ATOM   2420  CD  GLU B 189     2.511  26.310  32.312  1.00 84.40   C
ATOM   2421  OE1 GLU B 189     1.987  25.916  31.246  1.00 85.84   O
ATOM   2422  OE2 GLU B 189     3.073  27.423  32.419  1.00 84.76   O
ATOM   2423  C   GLU B 189     3.572  22.399  31.504  1.00 79.10   C
ATOM   2424  O   GLU B 189     4.766  22.599  31.810  1.00 79.70   O
ATOM   2425  OXT GLU B 189     3.209  21.644  30.576  1.00 79.48   O
ATOM   2426  O   HOH W   1     4.040  12.508   8.261  1.00 26.70   O
ATOM   2427  O   HOH W   2    13.933  21.047  -5.444  1.00 32.16   O
ATOM   2428  O   HOH W   3    14.595  10.712  -6.463  1.00 26.68   O
ATOM   2429  O   HOH W   4    19.496  15.770   2.484  1.00 31.13   O
ATOM   2430  O   HOH W   5    18.407  11.181  -4.230  1.00 34.02   O
ATOM   2431  O   HOH W   6    16.852  13.205  18.050  1.00 33.11   O
ATOM   2432  O   HOH W   7    10.214  21.072  58.242  1.00 37.47   O
ATOM   2433  O   HOH W   8     9.748  10.525  59.061  1.00 34.17   O
ATOM   2434  O   HOH W   9    20.458  12.571  44.330  1.00 35.78   O
ATOM   2435  O   HOH W  10     8.700  11.028  45.277  1.00 51.91   O
ATOM   2436  O   HOH W  11    16.314  26.308  10.121  1.00 33.23   O
ATOM   2437  O   HOH W  12    15.210  20.001  32.653  1.00 39.92   O
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ATOM   2438  O   HOH W  13    3.960   5.716  47.160  1.00 45.80   O
ATOM   2439  O   HOH W  14   26.435  17.047  49.748  1.00 40.15   O
ATOM   2440  O   HOH W  15   -1.112  11.755   2.219  1.00 64.01   O
ATOM   2441  O   HOH W  16   10.171  28.451  50.750  1.00 43.61   O
ATOM   2442  O   HOH W  17   10.104  20.203   4.975  1.00 53.19   O
ATOM   2443  O   HOH W  18   20.745  16.542  -2.769  1.00 28.77   O
ATOM   2444  O   HOH W  19   -5.660  -7.610   5.960  1.00 45.24   O
ATOM   2445  O   HOH W  20    9.000  20.045  19.857  1.00 38.22   O
ATOM   2446  O   HOH W  21    8.480   7.462  30.871  1.00 47.46   O
ATOM   2447  O   HOH W  22   27.822  17.883  54.991  1.00 28.92   O
ATOM   2448  O   HOH W  23    2.188  18.872  32.043  1.00 48.84   O
ATOM   2449  O   HOH W  24   17.633  18.838  57.504  1.00 41.89   O
ATOM   2450  O   HOH W  25   21.652  25.017  51.935  1.00 57.47   O
ATOM   2451  O   HOH W  26    7.604  12.850  34.861  1.00 41.07   O
ATOM   2452  O   HOH W  27   25.207  11.648  50.638  1.00 69.60   O
ATOM   2453  O   HOH W  29   16.729  13.179  27.696  1.00 47.29   O
ATOM   2454  O   HOH W  30    5.081  13.816  26.987  1.00 66.72   O
ATOM   2455  O   HOH W  31   12.960  30.863  40.957  1.00 47.76   O
ATOM   2456  O   HOH W  32   15.970  11.521   7.301  1.00 49.79   O
ATOM   2457  O   HOH W  33   21.271  23.315  14.636  1.00 42.32   O
ATOM   2458  O   HOH W  34    5.009  10.689  25.767  1.00 58.86   O
ATOM   2459  O   HOH W  35    1.694  10.843  -1.667  1.00 38.92   O
ATOM   2460  O   HOH W  36   -0.310  25.857   2.103  1.00 60.86   O
ATOM   2461  O   HOH W  37   -8.796  15.352   6.606  1.00 69.93   O
ATOM   2462  O   HOH W  38   20.951  15.510  -0.080  1.00 28.14   O
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ATOM   2463  O   HOH W  39   15.352  11.784  30.109  1.00 51.67   O
ATOM   2464  O   HOH W  40    3.355  14.719  53.024  1.00 37.70   O
ATOM   2465  O   HOH W  42   -2.050   9.295  -4.545  1.00 57.33   O
ATOM   2466  O   HOH W  43   -9.976   9.916   9.991  1.00 87.82   O
ATOM   2467  O   HOH W  44    5.572  21.524  -2.004  1.00 74.94   O
ATOM   2468  O   HOH W  46    9.193  11.834  22.390  1.00 50.58   O
ATOM   2469  O   HOH W  47   17.876  15.823  58.201  1.00 45.45   O
ATOM   2470  O   HOH W  48   10.186   1.800  11.898  1.00 58.91   O
ATOM   2471  O   HOH W  49    9.488  10.004  34.123  1.00 48.87   O
ATOM   2472  O   HOH W  50    0.567  26.733  39.027  1.00 52.93   O
ATOM   2473  O   HOH W  51   10.518  24.208  -7.159  1.00 43.91   O
ATOM   2474  O   HOH W  52   11.275  31.220  11.609  1.00 72.49   O
ATOM   2475  O   HOH W  53   20.256   5.993   5.735  1.00 48.72   O
ATOM   2476  O   HOH W  54   -4.488  19.914  37.431  1.00 55.84   O
ATOM   2477  O   HOH W  55    9.259  18.064   3.239  1.00 58.33   O
ATOM   2478  O   HOH W  56   23.933  22.944  51.722  1.00 54.99   O
ATOM   2479  O   HOH W  57   24.841   9.119  -0.096  1.00 53.03   O
ATOM   2480  O   HOH W  58    4.424  16.540  23.959  1.00 45.30   O
ATOM   2481  O   HOH W  59   23.572  18.774  53.301  1.00 43.19   O
ATOM   2482  O   HOH W  60   19.627  11.112  27.097  1.00 56.82   O
ATOM   2483  O   HOH W  61    7.728  25.890  42.676  1.00 40.99   O
ATOM   2484  O   HOH W  62   13.333   1.796   4.471  1.00 48.50   O
ATOM   2485  O   HOH W  63    5.991  15.776  -5.712  1.00 36.49   O
ATOM   2486  O   HOH W  65    6.100  10.580  56.983  1.00 44.25   O
ATOM   2487  O   HOH W  66   10.175  17.800  -9.148  1.00 50.73   O
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ATOM   2488  O   HOH W  67    12.429  10.671  26.357  1.00 43.62   O
ATOM   2489  O   HOH W  68    14.092  19.997  47.805  1.00 56.02   O
ATOM   2490  O   HOH W  69    27.526  13.816  40.679  1.00143.11   O
ATOM   2491  O   HOH W  70    27.171  25.976  50.883  1.00 70.04   O
ATOM   2492  O   HOH W  71    25.949  13.041  12.265  1.00 61.46   O
ATOM   2493  O   HOH W  73    20.947  34.715  46.208  1.00 68.24   O
ATOM   2494  O   HOH W  74    16.555  26.377  22.214  1.00 59.16   O
ATOM   2495  O   HOH W  75    -3.547  26.746   2.866  1.00 71.13   O
ATOM   2496  O   HOH W  76     5.540  14.794  -9.696  1.00 69.89   O
ATOM   2497  O   HOH W  77    23.279  -0.635  39.750  1.00 62.15   O
ATOM   2498  O   HOH W  80    19.922  16.795  28.541  1.00 44.27   O
ATOM   2499  O   HOH W  81    27.483  11.963  53.993  1.00 45.20   O
ATOM   2500  O   HOH W  82    13.906  22.578  32.044  1.00 55.11   O
ATOM   2501  O   HOH W  83    22.987  24.494  12.307  1.00 58.59   O
ATOM   2502  O   HOH W  84    16.335   8.026  21.642  1.00 46.23   O
ATOM   2503  O   HOH W  85    12.684   3.455  13.075  1.00 78.38   O
ATOM   2504  O   HOH W  86    20.879  16.549   9.771  1.00 42.57   O
ATOM   2505  O   HOH W  87     0.757  21.593  28.527  1.00 69.69   O
ATOM   2506  O   HOH W  88    13.879  17.013  47.543  1.00 54.48   O
ATOM   2507  O   HOH W  89    15.694  18.445  49.669  1.00 54.79   O
ATOM   2508  O   HOH W  90    -2.076   0.968  51.836  1.00 59.41   O
ATOM   2509  O   HOH W  91    19.272  30.879  50.117  1.00 58.03   O
ATOM   2510  O   HOH W  92    17.785  26.541   5.860  1.00 58.78   O
ATOM   2511  O   HOH W  93    15.194  10.406  18.655  1.00 51.55   O
ATOM   2512  O   HOH W  94    14.191  10.352  15.784  1.00 59.53   O
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ATOM 2513 O HOH W 95 14.530 8.322 12.335 1.00 57.57 O
ATOM 2514 O HOH W 96 14.382 6.550 1.265 1.00 39.82 O
ATOM 2515 O HOH W 97 3.491 9.628 -10.219 1.00 64.18 O
ATOM 2516 O HOH W 98 7.943 11.032 6.651 1.00 61.55 O
ATOM 2517 O HOH W 99 2.917 34.621 6.036 1.00 76.28 O
ATOM 2518 O HOH W 100 6.976 33.080 4.434 1.00 63.23 O
ATOM 2519 O HOH W 101 4.575 31.407 2.694 1.00 62.67 O
ATOM 2520 O HOH W 102 10.274 34.137 10.082 1.00 56.85 O
ATOM 2521 O HOH W 103 10.163 22.575 20.912 1.00 54.58 O
ATOM 2522 O HOH W 104 8.270 24.585 21.965 1.00 47.21 O
ATOM 2523 O HOH W 105 17.520 21.811 53.118 1.00 56.66 O
ATOM 2524 O HOH W 106 9.883 6.038 51.329 1.00 35.50 O
ATOM 2525 O HOH W 107 14.590 8.397 41.921 1.00 81.43 O
ATOM 2526 O HOH W 108 16.218 11.381 46.157 1.00 72.99 O
ATOM 2527 O HOH W 109 24.706 15.452 29.112 1.00 57.26 O
ATOM 2528 O HOH W 110 18.692 22.125 55.822 1.00 70.38 O
ATOM 2529 O HOH W 111 22.284 24.536 58.178 1.00 54.74 O
ATOM 2530 O HOH W 112 17.887 1.620 25.979 1.00 51.74 O
ATOM 2531 O HOH W 113 25.868 4.467 51.867 1.00 74.64 O

Table 3

Three Dimensional Coordinates of Se-Met-type L-PGDS

ATOM 1 CB PHE A 34 -8.574 -24.037 55.181 1.00 80.07 A
ATOM 2 CG PHE A 34 -7.718 -22.864 54.718 1.00 79.58 A
ATOM 3 CD1 PHE A 34 -7.455 -22.691 53.358 1.00 78.93 A

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ATOM   4  CD2 PHE A  34   -7.119 -21.988  55.626  1.00 78.38   A
ATOM   5  CE1 PHE A  34   -6.605 -21.683  52.908  1.00 77.67   A
ATOM   6  CE2 PHE A  34   -6.265 -20.975  55.184  1.00 78.08   A
ATOM   7  CZ  PHE A  34   -6.008 -20.827  53.819  1.00 78.70   A
ATOM   8  C   PHE A  34   -7.194 -24.354  57.289  1.00 78.35   A
ATOM   9  O   PHE A  34   -6.887 -23.715  58.301  1.00 79.55   A
ATOM   10 N   PHE A  34   -9.359 -23.145  57.369  1.00 80.95   A
ATOM   11 CA  PHE A  34   -8.607 -24.254  56.712  1.00 79.32   A
ATOM   12 N   GLN A  35   -6.335 -25.151  56.657  1.00 75.88   A
ATOM   13 CA  GLN A  35   -4.962 -25.309  57.136  1.00 72.38   A
ATOM   14 CB  GLN A  35   -4.643 -26.790  57.280  1.00 74.51   A
ATOM   15 CG  GLN A  35   -5.890 -27.647  57.401  1.00 75.90   A
ATOM   16 CD  GLN A  35   -5.570 -29.094  57.698  1.00 76.72   A
ATOM   17 OE1 GLN A  35   -5.107 -29.428  58.794  1.00 78.20   A
ATOM   18 NE2 GLN A  35   -5.808 -29.965  56.722  1.00 75.23   A
ATOM   19 C   GLN A  35   -4.008 -24.658  56.138  1.00 67.48   A
ATOM   20 O   GLN A  35   -3.528 -25.318  55.216  1.00 65.63   A
ATOM   21 N   GLN A  36   -3.727 -23.369  56.335  1.00 62.20   A
ATOM   22 CA  GLN A  36   -2.859 -22.638  55.420  1.00 55.74   A
ATOM   23 CB  GLN A  36   -2.796 -21.139  55.794  1.00 53.90   A
ATOM   24 CG  GLN A  36   -2.278 -20.778  57.183  1.00 53.70   A
ATOM   25 CD  GLN A  36   -1.986 -19.277  57.323  1.00 51.50   A
ATOM   26 OE1 GLN A  36   -2.866 -18.437  57.155  1.00 52.05   A
ATOM   27 NE2 GLN A  36   -0.742 -18.945  57.626  1.00 53.40   A
ATOM   28 C   GLN A  36   -1.453 -23.210  55.233  1.00 52.02   A
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ATOM   29  O   GLN A  36    -0.789 -22.879  54.252  1.00 52.24   A
ATOM   30  N   ASP A  37    -1.005 -24.066  56.155  1.00 49.11   A
ATOM   31  CA  ASP A  37     0.317 -24.702  56.046  1.00 44.61   A
ATOM   32  CB  ASP A  37     0.564 -25.655  57.224  1.00 49.16   A
ATOM   33  CG  ASP A  37     1.188 -24.968  58.439  1.00 54.29   A
ATOM   34  OD1 ASP A  37     2.411 -24.701  58.416  1.00 56.85   A
ATOM   35  OD2 ASP A  37     0.461 -24.703  59.425  1.00 55.81   A
ATOM   36  C   ASP A  37     0.356 -25.495  54.728  1.00 41.76   A
ATOM   37  O   ASP A  37     1.408 -25.659  54.120  1.00 37.74   A
ATOM   38  N   LYS A  38    -0.808 -25.976  54.297  1.00 40.27   A
ATOM   39  CA  LYS A  38    -0.935 -26.728  53.046  1.00 39.95   A
ATOM   40  CB  LYS A  38    -2.220 -27.572  53.057  1.00 41.46   A
ATOM   41  CG  LYS A  38    -2.305 -28.608  54.160  1.00 43.07   A
ATOM   42  CD  LYS A  38    -1.357 -29.759  53.888  1.00 49.21   A
ATOM   43  CE  LYS A  38    -1.457 -30.840  54.968  1.00 53.99   A
ATOM   44  NZ  LYS A  38    -0.391 -31.886  54.806  1.00 53.22   A
ATOM   45  C   LYS A  38    -0.978 -25.770  51.847  1.00 39.66   A
ATOM   46  O   LYS A  38    -0.533 -26.115  50.757  1.00 39.39   A
ATOM   47  N   PHE A  39    -1.532 -24.576  52.053  1.00 40.20   A
ATOM   48  CA  PHE A  39    -1.628 -23.556  51.001  1.00 37.86   A
ATOM   49  CB  PHE A  39    -2.463 -22.362  51.514  1.00 44.93   A
ATOM   50  CG  PHE A  39    -2.920 -21.388  50.433  1.00 51.45   A
ATOM   51  CD1 PHE A  39    -2.409 -21.439  49.132  1.00 55.30   A
ATOM   52  CD2 PHE A  39    -3.866 -20.403  50.731  1.00 51.56   A
ATOM   53  CE1 PHE A  39    -2.835 -20.523  48.144  1.00 54.21   A
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ATOM   54  CE2 PHE A  39   -4.296 -19.485  49.751  1.00 50.99   A
ATOM   55  CZ  PHE A  39   -3.779 -19.547  48.460  1.00 51.28   A
ATOM   56  C   PHE A  39   -0.204 -23.098  50.639  1.00 32.24   A
ATOM   57  O   PHE A  39    0.055 -22.637  49.535  1.00 28.40   A
ATOM   58  N   LEU A  40    0.719 -23.244  51.580  1.00 29.46   A
ATOM   59  CA  LEU A  40    2.103 -22.845  51.349  1.00 31.74   A
ATOM   60  CB  LEU A  40    2.952 -23.163  52.579  1.00 32.26   A
ATOM   61  CG  LEU A  40    2.491 -22.423  53.834  1.00 33.81   A
ATOM   62  CD1 LEU A  40    3.404 -22.745  54.998  1.00 35.43   A
ATOM   63  CD2 LEU A  40    2.511 -20.906  53.548  1.00 36.44   A
ATOM   64  C   LEU A  40    2.743 -23.482  50.114  1.00 32.72   A
ATOM   65  O   LEU A  40    2.308 -24.546  49.630  1.00 32.75   A
ATOM   66  N   GLY A  41    3.773 -22.820  49.594  1.00 32.46   A
ATOM   67  CA  GLY A  41    4.447 -23.356  48.432  1.00 32.86   A
ATOM   68  C   GLY A  41    4.363 -22.578  47.134  1.00 33.14   A
ATOM   69  O   GLY A  41    4.061 -21.380  47.106  1.00 33.14   A
ATOM   70  N   ARG A  42    4.628 -23.281  46.040  1.00 33.66   A
ATOM   71  CA  ARG A  42    4.636 -22.665  44.725  1.00 35.33   A
ATOM   72  CB  ARG A  42    5.796 -23.233  43.894  1.00 38.39   A
ATOM   73  CG  ARG A  42    5.705 -22.932  42.393  1.00 45.57   A
ATOM   74  CD  ARG A  42    5.769 -24.211  41.537  1.00 52.54   A
ATOM   75  NE  ARG A  42    7.141 -24.604  41.210  1.00 57.48   A
ATOM   76  CZ  ARG A  42    7.486 -25.760  40.643  1.00 60.34   A
ATOM   77  NH1 ARG A  42    6.564 -26.668  40.334  1.00 61.55   A
ATOM   78  NH2 ARG A  42    8.761 -25.998  40.369  1.00 61.04   A
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ATOM   79  C   ARG A  42     3.343 -22.842  43.961  1.00 35.35   A
ATOM   80  O   ARG A  42     2.838 -23.964  43.821  1.00 35.49   A
ATOM   81  N   TRP A  43     2.806 -21.734  43.466  1.00 33.00   A
ATOM   82  CA  TRP A  43     1.592 -21.791  42.674  1.00 33.72   A
ATOM   83  CB  TRP A  43     0.406 -21.172  43.428  1.00 26.08   A
ATOM   84  CG  TRP A  43    -0.007 -21.884  44.680  1.00 23.97   A
ATOM   85  CD2 TRP A  43    -1.096 -22.810  44.818  1.00 22.06   A
ATOM   86  CE2 TRP A  43    -1.171 -23.169  46.183  1.00 18.60   A
ATOM   87  CE3 TRP A  43    -2.015 -23.371  43.917  1.00 20.78   A
ATOM   88  CD1 TRP A  43     0.529 -21.740  45.936  1.00 25.06   A
ATOM   89  NE1 TRP A  43    -0.171 -22.508  46.843  1.00 18.01   A
ATOM   90  CZ2 TRP A  43    -2.128 -24.053  46.669  1.00 23.31   A
ATOM   91  CZ3 TRP A  43    -2.964 -24.249  44.400  1.00 24.79   A
ATOM   92  CH2 TRP A  43    -3.019 -24.583  45.766  1.00 23.79   A
ATOM   93  C   TRP A  43     1.826 -21.037  41.358  1.00 35.56   A
ATOM   94  O   TRP A  43     2.929 -20.550  41.095  1.00 37.26   A
ATOM   95  N   TYR A  44     0.793 -20.975  40.525  1.00 37.30   A
ATOM   96  CA  TYR A  44     0.859 -20.248  39.263  1.00 38.32   A
ATOM   97  CB  TYR A  44     1.120 -21.172  38.072  1.00 39.52   A
ATOM   98  CG  TYR A  44     2.402 -21.933  38.138  1.00 40.70   A
ATOM   99  CD1 TYR A  44     2.402 -23.324  38.354  1.00 38.14   A
ATOM   100 CE1 TYR A  44     3.587 -24.029  38.430  1.00 37.42   A
ATOM   101 CD2 TYR A  44     3.625 -21.274  37.997  1.00 39.25   A
ATOM   102 CE2 TYR A  44     4.814 -21.970  38.067  1.00 41.43   A
ATOM   103 CZ  TYR A  44     4.792 -23.349  38.286  1.00 41.53   A
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ATOM   104  OH  TYR A  44      5.985 -24.029  38.370  1.00 45.03    A
ATOM   105  C   TYR A  44     -0.487 -19.577  39.018  1.00 40.46    A
ATOM   106  O   TYR A  44     -1.544 -20.232  39.158  1.00 39.17    A
ATOM   107  N   SER A  45     -0.433 -18.290  38.657  1.00 40.82    A
ATOM   108  CA  SER A  45     -1.618 -17.505  38.318  1.00 43.52    A
ATOM   109  CB  SER A  45     -1.243 -16.053  37.994  1.00 44.83    A
ATOM   110  OG  SER A  45     -0.342 -15.512  38.936  1.00 52.14    A
ATOM   111  C   SER A  45     -2.092 -18.152  37.021  1.00 45.66    A
ATOM   112  O   SER A  45     -1.315 -18.257  36.073  1.00 47.25    A
ATOM   113  N   ALA A  46     -3.348 -18.580  36.961  1.00 46.41    A
ATOM   114  CA  ALA A  46     -3.850 -19.219  35.748  1.00 45.31    A
ATOM   115  CB  ALA A  46     -4.012 -20.698  35.977  1.00 46.81    A
ATOM   116  C   ALA A  46     -5.166 -18.623  35.296  1.00 45.28    A
ATOM   117  O   ALA A  46     -5.489 -18.639  34.113  1.00 48.63    A
ATOM   118  N   GLY A  47     -5.930 -18.104  36.246  1.00 45.61    A
ATOM   119  CA  GLY A  47     -7.205 -17.511  35.910  1.00 43.75    A
ATOM   120  C   GLY A  47     -7.329 -16.131  36.505  1.00 43.31    A
ATOM   121  O   GLY A  47     -6.677 -15.803  37.485  1.00 44.49    A
ATOM   122  N   LEU A  48     -8.170 -15.313  35.901  1.00 43.33    A
ATOM   123  CA  LEU A  48     -8.396 -13.968  36.384  1.00 43.41    A
ATOM   124  CB  LEU A  48     -7.227 -13.074  36.001  1.00 40.63    A
ATOM   125  CG  LEU A  48     -6.373 -12.435  37.103  1.00 40.99    A
ATOM   126  CD1 LEU A  48     -5.112 -11.878  36.455  1.00 38.94    A
ATOM   127  CD2 LEU A  48     -7.127 -11.320  37.839  1.00 39.06    A
ATOM   128  C   LEU A  48     -9.675 -13.458  35.741  1.00 46.49    A
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ATOM   129  O   LEU A  48    -9.966 -13.752  34.577  1.00 47.60   A
ATOM   130  N   ALA A  49   -10.442 -12.706  36.515  1.00 49.82   A
ATOM   131  CA  ALA A  49   -11.687 -12.128  36.043  1.00 54.89   A
ATOM   132  CB  ALA A  49   -12.791 -13.149  36.156  1.00 54.30   A
ATOM   133  C   ALA A  49   -11.976 -10.916  36.928  1.00 58.99   A
ATOM   134  O   ALA A  49   -12.011 -11.043  38.155  1.00 61.81   A
ATOM   135  N   SER A  50   -12.182  -9.745  36.326  1.00 62.36   A
ATOM   136  CA  SER A  50   -12.445  -8.550  37.123  1.00 66.74   A
ATOM   137  CB  SER A  50   -11.118  -7.939  37.577  1.00 65.83   A
ATOM   138  OG  SER A  50   -11.334  -6.795  38.386  1.00 63.09   A
ATOM   139  C   SER A  50   -13.284  -7.461  36.456  1.00 70.85   A
ATOM   140  O   SER A  50   -13.550  -7.511  35.252  1.00 71.11   A
ATOM   141  N   ASN A  51   -13.692  -6.480  37.266  1.00 75.09   A
ATOM   142  CA  ASN A  51   -14.481  -5.331  36.819  1.00 79.23   A
ATOM   143  CB  ASN A  51   -15.582  -4.964  37.824  1.00 81.26   A
ATOM   144  CG  ASN A  51   -16.260  -6.168  38.435  1.00 84.64   A
ATOM   145  OD1 ASN A  51   -16.714  -7.072  37.730  1.00 87.24   A
ATOM   146  ND2 ASN A  51   -16.352  -6.177  39.762  1.00 83.95   A
ATOM   147  C   ASN A  51   -13.537  -4.137  36.751  1.00 81.34   A
ATOM   148  O   ASN A  51   -13.843  -3.120  36.127  1.00 82.27   A
ATOM   149  N   SER A  52   -12.401  -4.264  37.428  1.00 83.15   A
ATOM   150  CA  SER A  52   -11.403  -3.205  37.484  1.00 86.71   A
ATOM   151  CB  SER A  52   -10.126  -3.725  38.142  1.00 88.84   A
ATOM   152  OG  SER A  52   -10.400  -4.259  39.423  1.00 94.06   A
ATOM   153  C   SER A  52   -11.052  -2.632  36.125  1.00 88.19   A
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ATOM   154  O   SER A  52    -10.666  -3.363  35.214  1.00 88.95   A
ATOM   155  N   SER A  53    -11.191  -1.318  35.989  1.00 90.75   A
ATOM   156  CA  SER A  53    -10.846  -0.656  34.740  1.00 93.53   A
ATOM   157  CB  SER A  53    -10.982   0.863  34.888  1.00 94.58   A
ATOM   158  OG  SER A  53    -10.221   1.345  35.985  1.00 94.06   A
ATOM   159  C   SER A  53    -9.392  -1.034  34.485  1.00 94.71   A
ATOM   160  O   SER A  53    -8.986  -1.288  33.350  1.00 94.70   A
ATOM   161  N   TRP A  54    -8.626  -1.077  35.573  1.00 95.46   A
ATOM   162  CA  TRP A  54    -7.216  -1.439  35.542  1.00 96.17   A
ATOM   163  CB  TRP A  54    -6.710  -1.638  36.966  1.00 99.29   A
ATOM   164  CG  TRP A  54    -5.362  -2.259  37.036  1.00103.51   A
ATOM   165  CD2 TRP A  54    -5.075  -3.654  37.188  1.00107.04   A
ATOM   166  CE2 TRP A  54    -3.669  -3.795  37.159  1.00108.07   A
ATOM   167  CE3 TRP A  54    -5.870  -4.801  37.344  1.00107.61   A
ATOM   168  CD1 TRP A  54    -4.160  -1.628  36.926  1.00103.66   A
ATOM   169  NE1 TRP A  54    -3.136  -2.542  36.999  1.00106.47   A
ATOM   170  CZ2 TRP A  54    -3.035  -5.043  37.281  1.00108.58   A
ATOM   171  CZ3 TRP A  54    -5.241  -6.043  37.465  1.00107.90   A
ATOM   172  CH2 TRP A  54    -3.835  -6.151  37.433  1.00107.76   A
ATOM   173  C   TRP A  54    -7.044  -2.733  34.759  1.00 95.39   A
ATOM   174  O   TRP A  54    -6.128  -2.870  33.946  1.00 96.21   A
ATOM   175  N   PHE A  55    -7.930  -3.684  35.030  1.00 93.38   A
ATOM   176  CA  PHE A  55    -7.917  -4.975  34.359  1.00 91.11   A
ATOM   177  CB  PHE A  55    -8.759  -5.978  35.152  1.00 87.81   A
ATOM   178  CG  PHE A  55    -8.933  -7.302  34.469  1.00 82.50   A
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ATOM   179  CD1 PHE A  55    -7.837  -8.109  34.196  1.00 79.44    A
ATOM   180  CD2 PHE A  55   -10.201  -7.745  34.102  1.00 80.69    A
ATOM   181  CE1 PHE A  55    -8.001  -9.339  33.569  1.00 78.70    A
ATOM   182  CE2 PHE A  55   -10.376  -8.971  33.476  1.00 78.47    A
ATOM   183  CZ  PHE A  55    -9.275  -9.770  33.208  1.00 78.56    A
ATOM   184  C   PHE A  55    -8.487  -4.799  32.954  1.00 92.16    A
ATOM   185  O   PHE A  55    -7.896  -5.255  31.974  1.00 92.45    A
ATOM   186  N   ARG A  56    -9.638  -4.135  32.867  1.00 92.56    A
ATOM   187  CA  ARG A  56   -10.285  -3.872  31.586  1.00 92.90    A
ATOM   188  CB  ARG A  56   -11.320  -2.755  31.739  1.00 94.04    A
ATOM   189  CG  ARG A  56   -12.690  -3.218  32.212  1.00 96.96    A
ATOM   190  CD  ARG A  56   -13.540  -2.048  32.705  1.00 98.68    A
ATOM   191  NE  ARG A  56   -14.968  -2.368  32.803  1.00101.63    A
ATOM   192  CZ  ARG A  56   -15.476  -3.458  33.381  1.00101.88    A
ATOM   193  NH1 ARG A  56   -14.682  -4.369  33.927  1.00102.50    A
ATOM   194  NH2 ARG A  56   -16.790  -3.636  33.421  1.00100.90    A
ATOM   195  C   ARG A  56    -9.227  -3.455  30.572  1.00 92.68    A
ATOM   196  O   ARG A  56    -9.123  -4.030  29.490  1.00 93.70    A
ATOM   197  N   GLU A  57    -8.439  -2.452  30.941  1.00 91.14    A
ATOM   198  CA  GLU A  57    -7.380  -1.956  30.080  1.00 89.61    A
ATOM   199  CB  GLU A  57    -6.835  -0.644  30.631  1.00 90.93    A
ATOM   200  CG  GLU A  57    -7.913   0.376  30.947  1.00 94.22    A
ATOM   201  CD  GLU A  57    -7.384   1.576  31.711  1.00 94.94    A
ATOM   202  OE1 GLU A  57    -8.198   2.461  32.057  1.00 94.57    A
ATOM   203  OE2 GLU A  57    -6.160   1.635  31.965  1.00 94.94    A
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ATOM    204  C   GLU A  57      -6.272  -2.991  30.055  1.00 88.82    A
ATOM    205  O   GLU A  57      -6.254  -3.885  29.207  1.00 89.63    A
ATOM    206  N   ALA A  58      -5.358  -2.871  31.011  1.00 87.18    A
ATOM    207  CA  ALA A  58      -4.222  -3.777  31.124  1.00 86.44    A
ATOM    208  CB  ALA A  58      -3.286  -3.285  32.226  1.00 85.99    A
ATOM    209  C   ALA A  58      -4.621  -5.233  31.389  1.00 84.70    A
ATOM    210  O   ALA A  58      -4.558  -5.702  32.525  1.00 85.72    A
ATOM    211  N   LYS A  59      -5.030  -5.946  30.343  1.00 81.60    A
ATOM    212  CA  LYS A  59      -5.408  -7.347  30.486  1.00 78.55    A
ATOM    213  CB  LYS A  59      -6.926  -7.496  30.586  1.00 77.93    A
ATOM    214  CG  LYS A  59      -7.698  -6.993  29.391  1.00 78.22    A
ATOM    215  CD  LYS A  59      -9.189  -6.930  29.701  1.00 79.39    A
ATOM    216  CE  LYS A  59      -9.760  -8.287  30.103  1.00 79.68    A
ATOM    217  NZ  LYS A  59      -9.769  -9.276  28.990  1.00 78.25    A
ATOM    218  C   LYS A  59      -4.880  -8.157  29.317  1.00 78.12    A
ATOM    219  O   LYS A  59      -5.082  -9.366  29.245  1.00 77.03    A
ATOM    220  N   ALA A  60      -4.202  -7.479  28.399  1.00 78.69    A
ATOM    221  CA  ALA A  60      -3.617  -8.137  27.239  1.00 78.11    A
ATOM    222  CB  ALA A  60      -3.852  -7.306  25.987  1.00 77.68    A
ATOM    223  C   ALA A  60      -2.122  -8.287  27.506  1.00 78.00    A
ATOM    224  O   ALA A  60      -1.389  -8.895  26.722  1.00 79.90    A
ATOM    225  N   VAL A  61      -1.683  -7.729  28.629  1.00 76.44    A
ATOM    226  CA  VAL A  61      -0.280  -7.787  29.023  1.00 74.53    A
ATOM    227  CB  VAL A  61       0.300  -6.361  29.167  1.00 73.76    A
ATOM    228  CG1 VAL A  61       0.258  -5.657  27.824  1.00 74.36    A
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ATOM   229  CG2 VAL A  61    -0.497  -5.570  30.199  1.00 71.91    A
ATOM   230  C   VAL A  61    -0.102  -8.549  30.340  1.00 72.77    A
ATOM   231  O   VAL A  61     0.669  -8.153  31.214  1.00 72.52    A
ATOM   232  N   LEU A  62    -0.829  -9.649  30.476  1.00 69.41    A
ATOM   233  CA  LEU A  62    -0.752 -10.454  31.680  1.00 64.91    A
ATOM   234  CB  LEU A  62    -2.019 -10.270  32.524  1.00 64.77    A
ATOM   235  CG  LEU A  62    -2.228  -8.917  33.220  1.00 64.55    A
ATOM   236  CD1 LEU A  62    -1.076  -8.658  34.180  1.00 65.57    A
ATOM   237  CD2 LEU A  62    -2.319  -7.792  32.191  1.00 65.13    A
ATOM   238  C   LEU A  62    -0.555 -11.925  31.354  1.00 61.50    A
ATOM   239  O   LEU A  62    -1.413 -12.566  30.760  1.00 61.77    A
ATOM   240  N   TYR A  63     0.600 -12.446  31.738  1.00 57.28    A
ATOM   241  CA  TYR A  63     0.922 -13.845  31.515  1.00 52.71    A
ATOM   242  CB  TYR A  63     2.378 -14.011  31.031  1.00 57.16    A
ATOM   243  CG  TYR A  63     2.705 -13.431  29.663  1.00 61.57    A
ATOM   244  CD1 TYR A  63     2.613 -12.054  29.423  1.00 60.81    A
ATOM   245  CE1 TYR A  63     2.936 -11.517  28.178  1.00 62.65    A
ATOM   246  CD2 TYR A  63     3.130 -14.262  28.612  1.00 61.57    A
ATOM   247  CE2 TYR A  63     3.456 -13.734  27.361  1.00 62.16    A
ATOM   248  CZ  TYR A  63     3.357 -12.358  27.152  1.00 64.02    A
ATOM   249  OH  TYR A  63     3.688 -11.812  25.927  1.00 66.92    A
ATOM   250  C   TYR A  63     0.782 -14.579  32.845  1.00 48.05    A
ATOM   251  O   TYR A  63     0.553 -13.970  33.895  1.00 46.41    A
ATOM   252  N   MET A  64     0.938 -15.895  32.780  1.00 43.07    A
ATOM   253  CA  MET A  64     0.885 -16.751  33.949  1.00 37.59    A
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ATOM   254  CB  MET A  64     1.044 -18.218  33.515  1.00 33.62   A
ATOM   255  CG  MET A  64     1.270 -19.229  34.631  1.00 34.88   A
ATOM   256  SD  MET A  64     1.253 -20.956  34.013  1.00 32.69   A
ATOM   257  CE  MET A  64    -0.441 -21.029  33.468  1.00 29.03   A
ATOM   258  C   MET A  64     2.062 -16.304  34.802  1.00 37.67   A
ATOM   259  O   MET A  64     3.102 -15.923  34.273  1.00 35.70   A
ATOM   260  N   ALA A  65     1.887 -16.316  36.119  1.00 38.51   A
ATOM   261  CA  ALA A  65     2.959 -15.928  37.023  1.00 36.56   A
ATOM   262  CB  ALA A  65     2.628 -14.620  37.717  1.00 32.37   A
ATOM   263  C   ALA A  65     3.163 -17.012  38.052  1.00 38.63   A
ATOM   264  O   ALA A  65     2.299 -17.862  38.267  1.00 39.28   A
ATOM   265  N   LYS A  66     4.332 -16.997  38.672  1.00 41.29   A
ATOM   266  CA  LYS A  66     4.644 -17.962  39.709  1.00 41.75   A
ATOM   267  CB  LYS A  66     6.048 -18.539  39.543  1.00 42.34   A
ATOM   268  CG  LYS A  66     6.470 -19.366  40.750  1.00 45.37   A
ATOM   269  CD  LYS A  66     7.980 -19.398  40.965  1.00 47.49   A
ATOM   270  CE  LYS A  66     8.674 -20.357  40.013  1.00 50.27   A
ATOM   271  NZ  LYS A  66    10.093 -20.595  40.427  1.00 49.08   A
ATOM   272  C   LYS A  66     4.594 -17.174  40.992  1.00 43.12   A
ATOM   273  O   LYS A  66     5.139 -16.072  41.074  1.00 42.51   A
ATOM   274  N   THR A  67     3.916 -17.723  41.987  1.00 44.36   A
ATOM   275  CA  THR A  67     3.828 -17.060  43.275  1.00 45.19   A
ATOM   276  CB  THR A  67     2.391 -16.536  43.554  1.00 46.71   A
ATOM   277  OG1 THR A  67     2.030 -15.565  42.566  1.00 48.01   A
ATOM   278  CG2 THR A  67     2.308 -15.892  44.930  1.00 46.33   A
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ATOM   279  C   THR A  67     4.205 -18.087  44.336  1.00 43.89   A
ATOM   280  O   THR A  67     3.664 -19.195  44.358  1.00 44.64   A
ATOM   281  N   VAL A  68     5.156 -17.745  45.194  1.00 40.84   A
ATOM   282  CA  VAL A  68     5.525 -18.679  46.237  1.00 39.30   A
ATOM   283  CB  VAL A  68     7.063 -18.803  46.403  1.00 40.93   A
ATOM   284  CG1 VAL A  68     7.383 -19.742  47.585  1.00 40.53   A
ATOM   285  CG2 VAL A  68     7.673 -19.350  45.119  1.00 36.88   A
ATOM   286  C   VAL A  68     4.882 -18.161  47.505  1.00 36.98   A
ATOM   287  O   VAL A  68     4.999 -16.981  47.839  1.00 32.83   A
ATOM   288  N   VAL A  69     4.192 -19.060  48.192  1.00 38.01   A
ATOM   289  CA  VAL A  69     3.475 -18.722  49.401  1.00 40.63   A
ATOM   290  CB  VAL A  69     2.051 -19.349  49.374  1.00 42.62   A
ATOM   291  CG1 VAL A  69     1.302 -19.042  50.668  1.00 37.81   A
ATOM   292  CG2 VAL A  69     1.274 -18.813  48.160  1.00 40.66   A
ATOM   293  C   VAL A  69     4.191 -19.161  50.662  1.00 41.24   A
ATOM   294  O   VAL A  69     4.516 -20.337  50.839  1.00 42.46   A
ATOM   295  N   ALA A  70     4.423 -18.197  51.542  1.00 40.47   A
ATOM   296  CA  ALA A  70     5.079 -18.463  52.808  1.00 39.50   A
ATOM   297  CB  ALA A  70     6.533 -18.046  52.737  1.00 41.04   A
ATOM   298  C   ALA A  70     4.347 -17.669  53.880  1.00 39.27   A
ATOM   299  O   ALA A  70     3.555 -16.784  53.571  1.00 37.53   A
ATOM   300  N   PRO A  71     4.578 -18.001  55.156  1.00 39.87   A
ATOM   301  CD  PRO A  71     5.257 -19.227  55.609  1.00 40.51   A
ATOM   302  CA  PRO A  71     3.945 -17.321  56.287  1.00 39.82   A
ATOM   303  CB  PRO A  71     4.468 -18.109  57.482  1.00 40.61   A
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ATOM    304  CG  PRO A  71      4.598 -19.485  56.936  1.00 38.21   A
ATOM    305  C   PRO A  71      4.322 -15.847  56.371  1.00 39.47   A
ATOM    306  O   PRO A  71      5.402 -15.457  55.928  1.00 41.31   A
ATOM    307  N   SER A  72      3.437 -15.034  56.940  1.00 39.29   A
ATOM    308  CA  SER A  72      3.703 -13.605  57.099  1.00 39.85   A
ATOM    309  CB  SER A  72      2.528 -12.765  56.610  1.00 38.06   A
ATOM    310  OG  SER A  72      1.574 -12.600  57.645  1.00 36.83   A
ATOM    311  C   SER A  72      3.915 -13.311  58.575  1.00 42.28   A
ATOM    312  O   SER A  72      3.416 -14.032  59.445  1.00 43.21   A
ATOM    313  N   THR A  73      4.629 -12.228  58.851  1.00 44.86   A
ATOM    314  CA  THR A  73      4.928 -11.823  60.219  1.00 44.43   A
ATOM    315  CB  THR A  73      5.477 -10.373  60.271  1.00 42.84   A
ATOM    316  OG1 THR A  73      6.640 -10.257  59.439  1.00 41.61   A
ATOM    317  CG2 THR A  73      5.863 -10.014  61.687  1.00 42.56   A
ATOM    318  C   THR A  73      3.748 -11.903  61.179  1.00 45.50   A
ATOM    319  O   THR A  73      3.906 -12.321  62.330  1.00 44.76   A
ATOM    320  N   GLU A  74      2.568 -11.514  60.707  1.00 47.50   A
ATOM    321  CA  GLU A  74      1.379 -11.506  61.553  1.00 48.36   A
ATOM    322  CB  GLU A  74      0.489 -10.330  61.177  1.00 50.79   A
ATOM    323  CG  GLU A  74     -0.323  -9.789  62.322  1.00 59.06   A
ATOM    324  CD  GLU A  74      0.517  -8.961  63.274  1.00 62.89   A
ATOM    325  OE1 GLU A  74      0.946  -7.860  62.867  1.00 63.68   A
ATOM    326  OE2 GLU A  74      0.754  -9.411  64.418  1.00 65.54   A
ATOM    327  C   GLU A  74      0.547 -12.775  61.510  1.00 47.32   A
ATOM    328  O   GLU A  74     -0.590 -12.786  61.971  1.00 45.23   A
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ATOM   329  N   GLY A  75     1.104 -13.849  60.967  1.00 48.50   A
ATOM   330  CA  GLY A  75     0.338 -15.076  60.892  1.00 51.57   A
ATOM   331  C   GLY A  75    -0.492 -15.094  59.621  1.00 52.32   A
ATOM   332  O   GLY A  75    -1.429 -15.884  59.487  1.00 55.22   A
ATOM   333  N   GLY A  76    -0.153 -14.202  58.695  1.00 48.02   A
ATOM   334  CA  GLY A  76    -0.851 -14.148  57.429  1.00 41.91   A
ATOM   335  C   GLY A  76    -0.010 -14.877  56.400  1.00 39.57   A
ATOM   336  O   GLY A  76     0.739 -15.794  56.737  1.00 37.39   A
ATOM   337  N   LEU A  77    -0.117 -14.464  55.144  1.00 37.70   A
ATOM   338  CA  LEU A  77     0.647 -15.099  54.085  1.00 35.31   A
ATOM   339  CB  LEU A  77    -0.269 -15.889  53.161  1.00 34.86   A
ATOM   340  CG  LEU A  77    -1.165 -16.945  53.809  1.00 37.16   A
ATOM   341  CD1 LEU A  77    -1.925 -17.682  52.736  1.00 36.06   A
ATOM   342  CD2 LEU A  77    -0.326 -17.909  54.607  1.00 41.20   A
ATOM   343  C   LEU A  77     1.425 -14.120  53.245  1.00 34.86   A
ATOM   344  O   LEU A  77     0.892 -13.093  52.831  1.00 36.48   A
ATOM   345  N   ASN A  78     2.697 -14.450  53.013  1.00 35.83   A
ATOM   346  CA  ASN A  78     3.594 -13.661  52.173  1.00 34.70   A
ATOM   347  CB  ASN A  78     5.051 -13.833  52.588  1.00 35.21   A
ATOM   348  CG  ASN A  78     5.513 -12.770  53.556  1.00 35.91   A
ATOM   349  OD1 ASN A  78     4.744 -11.876  53.925  1.00 37.78   A
ATOM   350  ND2 ASN A  78     6.781 -12.855  53.972  1.00 34.50   A
ATOM   351  C   ASN A  78     3.447 -14.244  50.799  1.00 36.13   A
ATOM   352  O   ASN A  78     3.528 -15.464  50.636  1.00 40.71   A
ATOM   353  N   LEU A  79     3.206 -13.398  49.810  1.00 36.53   A
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ATOM   354  CA  LEU A  79      3.088 -13.890  48.448  1.00 40.14   A
ATOM   355  CB  LEU A  79      1.702 -13.583  47.864  1.00 42.52   A
ATOM   356  CG  LEU A  79      0.678 -14.712  48.099  1.00 43.47   A
ATOM   357  CD1 LEU A  79      0.435 -14.889  49.586  1.00 42.65   A
ATOM   358  CD2 LEU A  79     -0.635 -14.403  47.401  1.00 42.52   A
ATOM   359  C   LEU A  79      4.185 -13.240  47.638  1.00 40.10   A
ATOM   360  O   LEU A  79      4.192 -12.023  47.450  1.00 42.17   A
ATOM   361  N   THR A  80      5.138 -14.058  47.201  1.00 40.26   A
ATOM   362  CA  THR A  80      6.270 -13.587  46.409  1.00 40.18   A
ATOM   363  CB  THR A  80      7.612 -14.139  46.971  1.00 39.78   A
ATOM   364  OG1 THR A  80      7.816 -13.649  48.301  1.00 39.20   A
ATOM   365  CG2 THR A  80      8.779 -13.713  46.104  1.00 38.24   A
ATOM   366  C   THR A  80      6.069 -14.086  44.990  1.00 40.51   A
ATOM   367  O   THR A  80      6.047 -15.290  44.745  1.00 39.73   A
ATOM   368  N   SER A  81      5.915 -13.165  44.053  1.00 42.62   A
ATOM   369  CA  SER A  81      5.692 -13.569  42.668  1.00 47.88   A
ATOM   370  CB  SER A  81      4.310 -13.107  42.205  1.00 47.74   A
ATOM   371  OG  SER A  81      3.340 -13.307  43.224  1.00 50.44   A
ATOM   372  C   SER A  81      6.743 -13.071  41.679  1.00 49.35   A
ATOM   373  O   SER A  81      7.263 -11.957  41.794  1.00 49.68   A
ATOM   374  N   THR A  82      7.045 -13.929  40.713  1.00 53.53   A
ATOM   375  CA  THR A  82      8.001 -13.646  39.655  1.00 57.80   A
ATOM   376  CB  THR A  82      9.063 -14.761  39.564  1.00 59.61   A
ATOM   377  OG1 THR A  82      9.951 -14.666  40.685  1.00 61.12   A
ATOM   378  CG2 THR A  82      9.854 -14.653  38.268  1.00 59.28   A
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ATOM    379  C   THR A  82      7.192 -13.603  38.357  1.00 59.75    A
ATOM    380  O   THR A  82      6.699 -14.632  37.884  1.00 58.51    A
ATOM    381  N   PHE A  83      7.050 -12.407  37.793  1.00 62.90    A
ATOM    382  CA  PHE A  83      6.276 -12.235  36.571  1.00 65.89    A
ATOM    383  CB  PHE A  83      4.961 -11.511  36.871  1.00 61.94    A
ATOM    384  CG  PHE A  83      5.135 -10.148  37.483  1.00 57.31    A
ATOM    385  CD1 PHE A  83      4.515  -9.037  36.916  1.00 57.80    A
ATOM    386  CD2 PHE A  83      5.869  -9.979  38.656  1.00 56.46    A
ATOM    387  CE1 PHE A  83      4.617  -7.774  37.509  1.00 57.20    A
ATOM    388  CE2 PHE A  83      5.979  -8.724  39.257  1.00 57.43    A
ATOM    389  CZ  PHE A  83      5.351  -7.618  38.683  1.00 58.05    A
ATOM    390  C   PHE A  83      6.990 -11.496  35.452  1.00 70.72    A
ATOM    391  O   PHE A  83      8.068 -10.935  35.639  1.00 71.97    A
ATOM    392  N   LEU A  84      6.346 -11.501  34.288  1.00 75.56    A
ATOM    393  CA  LEU A  84      6.854 -10.856  33.085  1.00 77.58    A
ATOM    394  CB  LEU A  84      6.588 -11.760  31.879  1.00 76.28    A
ATOM    395  CG  LEU A  84      7.137 -11.352  30.513  1.00 75.52    A
ATOM    396  CD1 LEU A  84      8.635 -11.047  30.622  1.00 76.74    A
ATOM    397  CD2 LEU A  84      6.870 -12.481  29.515  1.00 73.55    A
ATOM    398  C   LEU A  84      6.156  -9.517  32.893  1.00 79.65    A
ATOM    399  O   LEU A  84      4.934  -9.463  32.757  1.00 78.63    A
ATOM    400  N   ARG A  85      6.933  -8.438  32.899  1.00 84.46    A
ATOM    401  CA  ARG A  85      6.378  -7.100  32.714  1.00 90.39    A
ATOM    402  CB  ARG A  85      6.306  -6.343  34.046  1.00 92.46    A
ATOM    403  CG  ARG A  85      5.538  -5.030  33.952  1.00 95.39    A
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ATOM   404  CD  ARG A  85      5.562  -4.245  35.251  1.00 99.40   A
ATOM   405  NE  ARG A  85      4.834  -2.982  35.124  1.00103.44   A
ATOM   406  CZ  ARG A  85      4.795  -2.037  36.061  1.00105.03   A
ATOM   407  NH1 ARG A  85      5.445  -2.204  37.207  1.00106.01   A
ATOM   408  NH2 ARG A  85      4.105  -0.921  35.852  1.00103.52   A
ATOM   409  C   ARG A  85      7.237  -6.319  31.726  1.00 92.84   A
ATOM   410  O   ARG A  85      8.449  -6.178  31.912  1.00 93.32   A
ATOM   411  N   LYS A  86      6.600  -5.806  30.676  1.00 95.15   A
ATOM   412  CA  LYS A  86      7.311  -5.059  29.653  1.00 96.71   A
ATOM   413  CB  LYS A  86      7.747  -3.693  30.203  1.00 97.65   A
ATOM   414  CG  LYS A  86      6.654  -2.621  30.061  1.00 99.15   A
ATOM   415  CD  LYS A  86      6.720  -1.537  31.131  1.00100.81   A
ATOM   416  CE  LYS A  86      6.267  -2.073  32.481  1.00101.99   A
ATOM   417  NZ  LYS A  86      6.208  -1.012  33.526  1.00102.38   A
ATOM   418  C   LYS A  86      8.497  -5.898  29.208  1.00 98.14   A
ATOM   419  O   LYS A  86      9.621  -5.417  29.080  1.00 97.38   A
ATOM   420  N   ASN A  87      8.206  -7.180  28.998  1.00101.05   A
ATOM   421  CA  ASN A  87      9.169  -8.177  28.547  1.00103.17   A
ATOM   422  CB  ASN A  87      9.542  -7.902  27.089  1.00105.05   A
ATOM   423  CG  ASN A  87      8.322  -7.843  26.180  1.00107.39   A
ATOM   424  OD1 ASN A  87      7.484  -6.946  26.299  1.00107.32   A
ATOM   425  ND2 ASN A  87      8.213  -8.809  25.273  1.00109.34   A
ATOM   426  C   ASN A  87     10.425  -8.279  29.402  1.00103.13   A
ATOM   427  O   ASN A  87     10.526  -7.532  30.397  1.00104.41   A
ATOM   428  OT  ASN A  87     11.289  -9.117  29.065  1.00101.73   A
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ATOM    429  C   CYS A  89      11.135  -9.613  35.440  1.00 79.14    A
ATOM    430  O   CYS A  89      12.261  -9.207  35.721  1.00 79.54    A
ATOM    431  CB  CYS A  89      11.946 -11.311  33.779  1.00 82.95    A
ATOM    432  SG  CYS A  89      11.778 -12.786  34.808  1.00 94.11    A
ATOM    433  N   CYS A  89      10.776  -9.300  32.990  1.00 79.52    A
ATOM    434  CA  CYS A  89      10.857 -10.295  34.094  1.00 80.27    A
ATOM    435  N   GLU A  90      10.100  -9.516  36.273  1.00 78.18    A
ATOM    436  CA  GLU A  90      10.185  -8.842  37.571  1.00 74.49    A
ATOM    437  CB  GLU A  90       9.472  -7.495  37.455  1.00 75.68    A
ATOM    438  CG  GLU A  90       9.398  -6.692  38.725  1.00 80.75    A
ATOM    439  CD  GLU A  90       8.770  -5.329  38.509  1.00 83.66    A
ATOM    440  OE1 GLU A  90       8.511  -4.631  39.519  1.00 87.73    A
ATOM    441  OE2 GLU A  90       8.540  -4.957  37.334  1.00 80.98    A
ATOM    442  C   GLU A  90       9.615  -9.632  38.758  1.00 70.33    A
ATOM    443  O   GLU A  90       8.910 -10.621  38.581  1.00 69.86    A
ATOM    444  N   THR A  91       9.928  -9.188  39.971  1.00 66.65    A
ATOM    445  CA  THR A  91       9.446  -9.858  41.176  1.00 64.70    A
ATOM    446  CB  THR A  91      10.544 -10.758  41.812  1.00 64.79    A
ATOM    447  OG1 THR A  91      10.763 -11.908  40.985  1.00 66.28    A
ATOM    448  CG2 THR A  91      10.128 -11.221  43.202  1.00 62.60    A
ATOM    449  C   THR A  91       8.969  -8.893  42.243  1.00 62.74    A
ATOM    450  O   THR A  91       9.674  -7.953  42.593  1.00 62.35    A
ATOM    451  N   LYS A  92       7.775  -9.148  42.767  1.00 61.97    A
ATOM    452  CA  LYS A  92       7.203  -8.314  43.820  1.00 61.35    A
ATOM    453  CB  LYS A  92       6.190  -7.327  43.234  1.00 64.09    A
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ATOM    454  CG  LYS A  92       6.827  -6.002  42.810  1.00 67.74    A
ATOM    455  CD  LYS A  92       7.705  -5.439  43.933  1.00 69.95    A
ATOM    456  CE  LYS A  92       6.954  -5.374  45.268  1.00 68.61    A
ATOM    457  NZ  LYS A  92       7.876  -5.187  46.421  1.00 69.01    A
ATOM    458  C   LYS A  92       6.562  -9.113  44.950  1.00 59.21    A
ATOM    459  O   LYS A  92       6.189 -10.274  44.764  1.00 58.49    A
ATOM    460  N   ILE A  93       6.433  -8.477  46.116  1.00 57.93    A
ATOM    461  CA  ILE A  93       5.878  -9.133  47.300  1.00 57.73    A
ATOM    462  CB  ILE A  93       6.929  -9.223  48.459  1.00 57.31    A
ATOM    463  CG2 ILE A  93       6.352 -10.027  49.624  1.00 53.34    A
ATOM    464  CG1 ILE A  93       8.209  -9.921  47.989  1.00 60.14    A
ATOM    465  CD1 ILE A  93       8.995  -9.163  46.915  1.00 61.98    A
ATOM    466  C   ILE A  93       4.638  -8.477  47.891  1.00 57.41    A
ATOM    467  O   ILE A  93       4.690  -7.348  48.368  1.00 58.52    A
ATOM    468  N   MET A  94       3.526  -9.202  47.872  1.00 57.18    A
ATOM    469  CA  MET A  94       2.275  -8.716  48.446  1.00 56.08    A
ATOM    470  CB  MET A  94       1.094  -9.102  47.552  1.00 57.29    A
ATOM    471  CG  MET A  94       1.178  -8.660  46.094  1.00 59.72    A
ATOM    472  SD  MET A  94      -0.043  -9.548  45.028  1.00 66.73    A
ATOM    473  CE  MET A  94      -1.634  -9.093  45.788  1.00 58.01    A
ATOM    474  C   MET A  94       2.141  -9.434  49.799  1.00 57.08    A
ATOM    475  O   MET A  94       2.504 -10.613  49.914  1.00 58.30    A
ATOM    476  N   VAL A  95       1.644  -8.738  50.821  1.00 53.57    A
ATOM    477  CA  VAL A  95       1.460  -9.360  52.130  1.00 49.11    A
ATOM    478  CB  VAL A  95       2.092  -8.543  53.298  1.00 49.18    A
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ATOM   479  CG1 VAL A  95      1.530  -9.046  54.624  1.00 46.36   A
ATOM   480  CG2 VAL A  95      3.620  -8.677  53.310  1.00 46.36   A
ATOM   481  C   VAL A  95     -0.012  -9.502  52.452  1.00 48.44   A
ATOM   482  O   VAL A  95     -0.700  -8.509  52.651  1.00 50.11   A
ATOM   483  N   LEU A  96     -0.494 -10.737  52.509  1.00 47.81   A
ATOM   484  CA  LEU A  96     -1.889 -10.985  52.852  1.00 44.86   A
ATOM   485  CB  LEU A  96     -2.347 -12.339  52.306  1.00 44.26   A
ATOM   486  CG  LEU A  96     -3.377 -12.254  51.178  1.00 44.31   A
ATOM   487  CD1 LEU A  96     -3.072 -11.080  50.245  1.00 45.94   A
ATOM   488  CD2 LEU A  96     -3.370 -13.565  50.421  1.00 42.82   A
ATOM   489  C   LEU A  96     -2.031 -10.968  54.365  1.00 43.84   A
ATOM   490  O   LEU A  96     -1.466 -11.801  55.070  1.00 42.58   A
ATOM   491  N   GLN A  97     -2.784 -10.006  54.867  1.00 45.66   A
ATOM   492  CA  GLN A  97     -2.986  -9.908  56.298  1.00 47.39   A
ATOM   493  CB  GLN A  97     -3.217  -8.451  56.680  1.00 49.05   A
ATOM   494  CG  GLN A  97     -2.753  -8.111  58.069  1.00 51.88   A
ATOM   495  CD  GLN A  97     -1.240  -8.117  58.188  1.00 52.17   A
ATOM   496  OE1 GLN A  97     -0.538  -7.474  57.405  1.00 52.83   A
ATOM   497  NE2 GLN A  97     -0.732  -8.834  59.177  1.00 51.77   A
ATOM   498  C   GLN A  97     -4.187 -10.768  56.713  1.00 48.91   A
ATOM   499  O   GLN A  97     -5.225 -10.791  56.042  1.00 45.86   A
ATOM   500  N   PRO A  98     -4.051 -11.506  57.818  1.00 50.41   A
ATOM   501  CD  PRO A  98     -2.897 -11.599  58.733  1.00 53.20   A
ATOM   502  CA  PRO A  98     -5.166 -12.347  58.267  1.00 52.85   A
ATOM   503  CB  PRO A  98     -4.566 -13.109  59.456  1.00 54.22   A
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ATOM   504  CG  PRO A  98     -3.519 -12.157  59.986  1.00 54.74   A
ATOM   505  C   PRO A  98     -6.368 -11.469  58.637  1.00 51.82   A
ATOM   506  O   PRO A  98     -6.194 -10.401  59.221  1.00 52.75   A
ATOM   507  N   ALA A  99     -7.578 -11.909  58.291  1.00 50.67   A
ATOM   508  CA  ALA A  99     -8.778 -11.123  58.572  1.00 49.91   A
ATOM   509  CB  ALA A  99     -9.428 -10.698  57.261  1.00 50.29   A
ATOM   510  C   ALA A  99     -9.809 -11.808  59.468  1.00 51.08   A
ATOM   511  O   ALA A  99     -10.991 -11.910  59.125  1.00 51.56   A
ATOM   512  N   GLY A 100     -9.352 -12.282  60.619  1.00 53.49   A
ATOM   513  CA  GLY A 100     -10.245 -12.920  61.569  1.00 55.78   A
ATOM   514  C   GLY A 100     -10.778 -14.305  61.260  1.00 56.87   A
ATOM   515  O   GLY A 100     -11.526 -14.869  62.068  1.00 58.84   A
ATOM   516  N   ALA A 101     -10.418 -14.863  60.111  1.00 55.01   A
ATOM   517  CA  ALA A 101     -10.898 -16.197  59.773  1.00 53.78   A
ATOM   518  CB  ALA A 101     -12.313 -16.105  59.194  1.00 51.59   A
ATOM   519  C   ALA A 101     -9.963 -16.917  58.799  1.00 52.67   A
ATOM   520  O   ALA A 101     -9.417 -16.302  57.882  1.00 53.80   A
ATOM   521  N   PRO A 102     -9.760 -18.231  58.997  1.00 50.85   A
ATOM   522  CD  PRO A 102     -10.339 -19.068  60.065  1.00 49.23   A
ATOM   523  CA  PRO A 102     -8.887 -19.024  58.121  1.00 49.90   A
ATOM   524  CB  PRO A 102     -9.110 -20.457  58.616  1.00 49.27   A
ATOM   525  CG  PRO A 102     -9.415 -20.273  60.066  1.00 47.89   A
ATOM   526  C   PRO A 102     -9.336 -18.841  56.672  1.00 48.42   A
ATOM   527  O   PRO A 102     -10.544 -18.874  56.405  1.00 49.19   A
ATOM   528  N   GLY A 103     -8.383 -18.649  55.752  1.00 45.93   A
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ATOM   529  CA  GLY A 103    -8.726 -18.444  54.342  1.00 45.39   A
ATOM   530  C   GLY A 103    -9.323 -17.059  54.045  1.00 45.32   A
ATOM   531  O   GLY A 103    -9.872 -16.787  52.963  1.00 42.49   A
ATOM   532  N   HIS A 104    -9.202 -16.172  55.025  1.00 43.72   A
ATOM   533  CA  HIS A 104    -9.727 -14.822  54.907  1.00 42.49   A
ATOM   534  CB  HIS A 104   -10.847 -14.611  55.926  1.00 41.21   A
ATOM   535  CG  HIS A 104   -12.101 -15.334  55.571  1.00 40.30   A
ATOM   536  CD2 HIS A 104   -12.547 -16.564  55.914  1.00 42.49   A
ATOM   537  ND1 HIS A 104   -13.028 -14.820  54.690  1.00 40.22   A
ATOM   538  CE1 HIS A 104   -13.993 -15.701  54.504  1.00 41.84   A
ATOM   539  NE2 HIS A 104   -13.724 -16.770  55.235  1.00 45.92   A
ATOM   540  C   HIS A 104    -8.621 -13.831  55.142  1.00 41.81   A
ATOM   541  O   HIS A 104    -8.072 -13.746  56.242  1.00 41.25   A
ATOM   542  N   TYR A 105    -8.285 -13.083  54.107  1.00 41.35   A
ATOM   543  CA  TYR A 105    -7.221 -12.110  54.255  1.00 43.95   A
ATOM   544  CB  TYR A 105    -5.999 -12.584  53.487  1.00 40.86   A
ATOM   545  CG  TYR A 105    -5.594 -13.968  53.900  1.00 40.55   A
ATOM   546  CD1 TYR A 105    -4.701 -14.167  54.953  1.00 41.09   A
ATOM   547  CE1 TYR A 105    -4.358 -15.442  55.362  1.00 41.55   A
ATOM   548  CD2 TYR A 105    -6.138 -15.089  53.265  1.00 38.66   A
ATOM   549  CE2 TYR A 105    -5.802 -16.371  53.667  1.00 38.48   A
ATOM   550  CZ  TYR A 105    -4.914 -16.545  54.716  1.00 40.67   A
ATOM   551  OH  TYR A 105    -4.593 -17.811  55.135  1.00 45.56   A
ATOM   552  C   TYR A 105    -7.604 -10.720  53.804  1.00 47.35   A
ATOM   553  O   TYR A 105    -8.684 -10.487  53.249  1.00 48.78   A
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ATOM    554  N   THR A 106      -6.684  -9.802  54.048  1.00 51.30    A
ATOM    555  CA  THR A 106      -6.857  -8.414  53.683  1.00 52.89    A
ATOM    556  CB  THR A 106      -7.216  -7.598  54.931  1.00 48.76    A
ATOM    557  OG1 THR A 106      -8.639  -7.407  54.957  1.00 46.67    A
ATOM    558  CG2 THR A 106      -6.499  -6.270  54.948  1.00 47.39    A
ATOM    559  C   THR A 106      -5.565  -7.937  53.034  1.00 57.01    A
ATOM    560  O   THR A 106      -4.475  -8.326  53.447  1.00 57.07    A
ATOM    561  N   TYR A 107      -5.695  -7.106  52.007  1.00 63.36    A
ATOM    562  CA  TYR A 107      -4.530  -6.607  51.293  1.00 72.56    A
ATOM    563  CB  TYR A 107      -4.409  -7.355  49.968  1.00 73.77    A
ATOM    564  CG  TYR A 107      -3.209  -6.940  49.175  1.00 77.55    A
ATOM    565  CD1 TYR A 107      -1.930  -7.033  49.723  1.00 78.79    A
ATOM    566  CE1 TYR A 107      -0.816  -6.592  49.023  1.00 81.45    A
ATOM    567  CD2 TYR A 107      -3.348  -6.400  47.897  1.00 79.21    A
ATOM    568  CE2 TYR A 107      -2.239  -5.954  47.183  1.00 80.59    A
ATOM    569  CZ  TYR A 107      -0.975  -6.050  47.754  1.00 81.83    A
ATOM    570  OH  TYR A 107       0.128  -5.593  47.070  1.00 82.92    A
ATOM    571  C   TYR A 107      -4.531  -5.087  51.049  1.00 78.59    A
ATOM    572  O   TYR A 107      -5.565  -4.432  51.172  1.00 80.57    A
ATOM    573  N   SER A 108      -3.362  -4.541  50.701  1.00 84.94    A
ATOM    574  CA  SER A 108      -3.186  -3.102  50.445  1.00 90.11    A
ATOM    575  CB  SER A 108      -1.694  -2.750  50.393  1.00 91.85    A
ATOM    576  OG  SER A 108      -1.053  -3.346  49.277  1.00 92.66    A
ATOM    577  C   SER A 108      -3.857  -2.620  49.161  1.00 94.11    A
ATOM    578  O   SER A 108      -4.755  -3.282  48.644  1.00 95.60    A
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ATOM   579  N   SER A 109   -3.413  -1.476  48.637  1.00 98.37   A
ATOM   580  CA  SER A 109   -4.018  -0.920  47.424  1.00102.82   A
ATOM   581  CB  SER A 109   -4.804   0.347  47.772  1.00102.05   A
ATOM   582  OG  SER A 109   -3.931   1.407  48.119  1.00101.78   A
ATOM   583  C   SER A 109   -3.098  -0.603  46.239  1.00106.03   A
ATOM   584  O   SER A 109   -3.205   0.471  45.638  1.00107.26   A
ATOM   585  N   PRO A 110   -2.184  -1.523  45.882  1.00108.55   A
ATOM   586  CD  PRO A 110   -1.863  -2.824  46.492  1.00109.04   A
ATOM   587  CA  PRO A 110   -1.297  -1.253  44.747  1.00109.83   A
ATOM   588  CB  PRO A 110   -0.192  -2.281  44.930  1.00109.77   A
ATOM   589  CG  PRO A 110   -0.956  -3.452  45.446  1.00109.90   A
ATOM   590  C   PRO A 110   -2.086  -1.467  43.452  1.00110.93   A
ATOM   591  O   PRO A 110   -3.207  -1.985  43.482  1.00110.51   A
ATOM   592  N   HIS A 111   -1.495  -1.087  42.323  1.00111.85   A
ATOM   593  CA  HIS A 111   -2.161  -1.204  41.028  1.00112.29   A
ATOM   594  CB  HIS A 111   -2.707  -2.620  40.798  1.00113.17   A
ATOM   595  CG  HIS A 111   -1.666  -3.696  40.869  1.00115.64   A
ATOM   596  CD2 HIS A 111   -1.106  -4.458  39.901  1.00116.28   A
ATOM   597  ND1 HIS A 111   -1.092  -4.101  42.055  1.00116.85   A
ATOM   598  CE1 HIS A 111   -0.224  -5.067  41.815  1.00117.01   A
ATOM   599  NE2 HIS A 111   -0.213  -5.303  40.514  1.00117.62   A
ATOM   600  C   HIS A 111   -3.318  -0.214  41.054  1.00112.02   A
ATOM   601  O   HIS A 111   -3.121   0.994  40.901  1.00111.74   A
ATOM   602  N   SER A 112   -4.524  -0.735  41.257  1.00112.13   A
ATOM   603  CA  SER A 112   -5.720   0.096  41.332  1.00111.51   A
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ATOM   604  CB  SER A 112     -6.390   0.225  39.958  1.00112.93   A
ATOM   605  OG  SER A 112     -7.103  -0.953  39.618  1.00112.49   A
ATOM   606  C   SER A 112     -6.686  -0.563  42.303  1.00109.76   A
ATOM   607  O   SER A 112     -7.174  -1.668  42.057  1.00109.39   A
ATOM   608  N   GLY A 113     -6.957   0.108  43.414  1.00107.11   A
ATOM   609  CA  GLY A 113     -7.871  -0.458  44.383  1.00103.45   A
ATOM   610  C   GLY A 113     -7.781   0.218  45.731  1.00101.21   A
ATOM   611  O   GLY A 113     -7.451   1.407  45.832  1.00103.49   A
ATOM   612  N   SER A 114     -8.072  -0.550  46.772  1.00 95.74   A
ATOM   613  CA  SER A 114     -8.045  -0.042  48.134  1.00 89.73   A
ATOM   614  CB  SER A 114     -9.398   0.595  48.466  1.00 92.13   A
ATOM   615  OG  SER A 114    -10.475  -0.257  48.097  1.00 94.65   A
ATOM   616  C   SER A 114     -7.752  -1.200  49.073  1.00 84.14   A
ATOM   617  O   SER A 114     -6.641  -1.714  49.107  1.00 84.52   A
ATOM   618  N   ILE A 115     -8.750  -1.605  49.843  1.00 77.31   A
ATOM   619  CA  ILE A 115     -8.583  -2.725  50.745  1.00 71.63   A
ATOM   620  CB  ILE A 115     -9.162  -2.436  52.135  1.00 71.29   A
ATOM   621  CG2 ILE A 115     -8.163  -1.654  52.951  1.00 71.00   A
ATOM   622  CG1 ILE A 115    -10.488  -1.683  52.001  1.00 73.17   A
ATOM   623  CD1 ILE A 115    -11.223  -1.500  53.317  1.00 76.01   A
ATOM   624  C   ILE A 115     -9.311  -3.908  50.139  1.00 68.78   A
ATOM   625  O   ILE A 115    -10.514  -3.852  49.887  1.00 70.59   A
ATOM   626  N   HIS A 116     -8.569  -4.973  49.879  1.00 63.17   A
ATOM   627  CA  HIS A 116     -9.157  -6.162  49.308  1.00 56.48   A
ATOM   628  CB  HIS A 116     -8.219  -6.768  48.269  1.00 52.58   A
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ATOM   629  CG  HIS A 116    -8.046  -5.922  47.048  1.00 52.19   A
ATOM   630  CD2 HIS A 116    -7.667  -4.630  46.903  1.00 51.18   A
ATOM   631  ND1 HIS A 116    -8.252  -6.406  45.772  1.00 53.39   A
ATOM   632  CE1 HIS A 116    -8.006  -5.450  44.894  1.00 52.34   A
ATOM   633  NE2 HIS A 116    -7.648  -4.362  45.554  1.00 52.64   A
ATOM   634  C   HIS A 116    -9.420  -7.166  50.410  1.00 54.37   A
ATOM   635  O   HIS A 116    -8.579  -7.379  51.273  1.00 56.26   A
ATOM   636  N   SER A 117   -10.607  -7.754  50.401  1.00 51.47   A
ATOM   637  CA  SER A 117   -10.952  -8.770  51.381  1.00 48.84   A
ATOM   638  CB  SER A 117   -12.363  -8.566  51.918  1.00 50.14   A
ATOM   639  OG  SER A 117   -12.451  -7.332  52.601  1.00 59.59   A
ATOM   640  C   SER A 117   -10.882 -10.032  50.563  1.00 45.66   A
ATOM   641  O   SER A 117   -11.744 -10.289  49.721  1.00 45.39   A
ATOM   642  N   VAL A 118    -9.832 -10.804  50.800  1.00 42.70   A
ATOM   643  CA  VAL A 118    -9.604 -12.030  50.055  1.00 39.83   A
ATOM   644  CB  VAL A 118    -8.088 -12.175  49.706  1.00 39.01   A
ATOM   645  CG1 VAL A 118    -7.839 -13.416  48.830  1.00 34.52   A
ATOM   646  CG2 VAL A 118    -7.599 -10.907  49.022  1.00 33.42   A
ATOM   647  C   VAL A 118   -10.068 -13.258  50.826  1.00 38.57   A
ATOM   648  O   VAL A 118    -9.781 -13.414  52.030  1.00 35.32   A
ATOM   649  N   SER A 119   -10.789 -14.124  50.122  1.00 36.68   A
ATOM   650  CA  SER A 119   -11.289 -15.359  50.718  1.00 36.15   A
ATOM   651  CB  SER A 119   -12.798 -15.274  51.001  1.00 33.83   A
ATOM   652  OG  SER A 119   -13.533 -15.202  49.792  1.00 29.76   A
ATOM   653  C   SER A 119   -11.038 -16.501  49.762  1.00 36.50   A
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ATOM   654  O   SER A 119   -11.099 -16.336  48.533  1.00 34.43   A
ATOM   655  N   VAL A 120   -10.760 -17.663  50.340  1.00 36.83   A
ATOM   656  CA  VAL A 120   -10.513 -18.864  49.567  1.00 36.43   A
ATOM   657  CB  VAL A 120   -9.653 -19.861  50.355  1.00 33.61   A
ATOM   658  CG1 VAL A 120   -9.535 -21.166  49.584  1.00 27.88   A
ATOM   659  CG2 VAL A 120   -8.270 -19.250  50.629  1.00 31.31   A
ATOM   660  C   VAL A 120   -11.854 -19.490  49.274  1.00 39.98   A
ATOM   661  O   VAL A 120   -12.484 -20.053  50.170  1.00 42.93   A
ATOM   662  N   VAL A 121   -12.304 -19.385  48.027  1.00 40.55   A
ATOM   663  CA  VAL A 121   -13.593 -19.959  47.654  1.00 41.92   A
ATOM   664  CB  VAL A 121   -13.989 -19.551  46.234  1.00 38.14   A
ATOM   665  CG1 VAL A 121   -15.379 -20.125  45.891  1.00 32.71   A
ATOM   666  CG2 VAL A 121   -13.961 -18.030  46.120  1.00 38.48   A
ATOM   667  C   VAL A 121   -13.563 -21.485  47.725  1.00 44.84   A
ATOM   668  O   VAL A 121   -14.395 -22.103  48.386  1.00 46.44   A
ATOM   669  N   GLU A 122   -12.593 -22.080  47.034  1.00 45.48   A
ATOM   670  CA  GLU A 122   -12.429 -23.527  46.993  1.00 41.76   A
ATOM   671  CB  GLU A 122   -13.139 -24.092  45.766  1.00 39.34   A
ATOM   672  CG  GLU A 122   -13.627 -25.518  45.910  1.00 37.67   A
ATOM   673  CD  GLU A 122   -14.569 -25.899  44.789  1.00 39.19   A
ATOM   674  OE1 GLU A 122   -14.093 -26.096  43.656  1.00 43.74   A
ATOM   675  OE2 GLU A 122   -15.789 -25.984  45.028  1.00 39.37   A
ATOM   676  C   GLU A 122   -10.937 -23.749  46.863  1.00 41.01   A
ATOM   677  O   GLU A 122   -10.235 -22.884  46.325  1.00 40.90   A
ATOM   678  N   ALA A 123   -10.452 -24.890  47.357  1.00 39.08   A
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ATOM    679  CA  ALA A 123     -9.028 -25.191  47.289  1.00 38.09    A
ATOM    680  CB  ALA A 123     -8.300 -24.367  48.308  1.00 33.08    A
ATOM    681  C   ALA A 123     -8.635 -26.668  47.456  1.00 39.43    A
ATOM    682  O   ALA A 123     -9.014 -27.323  48.420  1.00 39.20    A
ATOM    683  N   ASN A 124     -7.864 -27.170  46.495  1.00 42.59    A
ATOM    684  CA  ASN A 124     -7.347 -28.532  46.525  1.00 47.72    A
ATOM    685  CB  ASN A 124     -7.603 -29.251  45.201  1.00 50.83    A
ATOM    686  CG  ASN A 124     -7.084 -30.673  45.210  1.00 52.71    A
ATOM    687  OD1 ASN A 124     -6.047 -30.957  45.809  1.00 54.16    A
ATOM    688  ND2 ASN A 124     -7.794 -31.573  44.536  1.00 54.16    A
ATOM    689  C   ASN A 124     -5.857 -28.278  46.683  1.00 51.11    A
ATOM    690  O   ASN A 124     -5.143 -28.071  45.699  1.00 51.57    A
ATOM    691  N   TYR A 125     -5.396 -28.297  47.928  1.00 54.48    A
ATOM    692  CA  TYR A 125     -4.007 -27.993  48.235  1.00 54.44    A
ATOM    693  CB  TYR A 125     -3.734 -28.230  49.727  1.00 56.30    A
ATOM    694  CG  TYR A 125     -3.279 -29.620  50.088  1.00 63.82    A
ATOM    695  CD1 TYR A 125     -4.195 -30.627  50.397  1.00 65.44    A
ATOM    696  CE1 TYR A 125     -3.760 -31.906  50.761  1.00 68.05    A
ATOM    697  CD2 TYR A 125     -1.917 -29.925  50.147  1.00 67.54    A
ATOM    698  CE2 TYR A 125     -1.472 -31.193  50.504  1.00 69.05    A
ATOM    699  CZ  TYR A 125     -2.393 -32.179  50.810  1.00 69.43    A
ATOM    700  OH  TYR A 125     -1.929 -33.430  51.161  1.00 70.34    A
ATOM    701  C   TYR A 125     -2.930 -28.650  47.365  1.00 53.21    A
ATOM    702  O   TYR A 125     -1.757 -28.278  47.444  1.00 53.08    A
ATOM    703  N   ASP A 126     -3.306 -29.603  46.521  1.00 51.21    A
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ATOM   704  CA  ASP A 126    -2.309 -30.229  45.654  1.00 50.82   A
ATOM   705  CB  ASP A 126    -2.291 -31.746  45.821  1.00 50.35   A
ATOM   706  CG  ASP A 126    -1.829 -32.174  47.178  1.00 51.64   A
ATOM   707  OD1 ASP A 126    -0.687 -31.842  47.557  1.00 57.64   A
ATOM   708  OD2 ASP A 126    -2.613 -32.851  47.865  1.00 50.91   A
ATOM   709  C   ASP A 126    -2.616 -29.936  44.204  1.00 49.67   A
ATOM   710  O   ASP A 126    -1.801 -30.214  43.321  1.00 49.83   A
ATOM   711  N   GLU A 127    -3.789 -29.356  43.969  1.00 48.57   A
ATOM   712  CA  GLU A 127    -4.249 -29.088  42.613  1.00 47.68   A
ATOM   713  CB  GLU A 127    -5.536 -29.886  42.381  1.00 49.84   A
ATOM   714  CG  GLU A 127    -5.846 -30.274  40.949  1.00 53.65   A
ATOM   715  CD  GLU A 127    -7.135 -31.087  40.846  1.00 57.80   A
ATOM   716  OE1 GLU A 127    -7.293 -32.051  41.626  1.00 59.17   A
ATOM   717  OE2 GLU A 127    -7.989 -30.767  39.987  1.00 60.10   A
ATOM   718  C   GLU A 127    -4.481 -27.619  42.260  1.00 45.31   A
ATOM   719  O   GLU A 127    -3.827 -27.077  41.362  1.00 44.52   A
ATOM   720  N   TYR A 128    -5.397 -26.970  42.970  1.00 41.80   A
ATOM   721  CA  TYR A 128    -5.734 -25.590  42.657  1.00 37.85   A
ATOM   722  CB  TYR A 128    -6.814 -25.556  41.583  1.00 37.33   A
ATOM   723  CG  TYR A 128    -8.148 -26.061  42.113  1.00 37.22   A
ATOM   724  CD1 TYR A 128    -8.439 -27.433  42.131  1.00 37.72   A
ATOM   725  CE1 TYR A 128    -9.613 -27.917  42.709  1.00 36.03   A
ATOM   726  CD2 TYR A 128    -9.080 -25.177  42.687  1.00 36.78   A
ATOM   727  CE2 TYR A 128   -10.260 -25.650  43.271  1.00 36.78   A
ATOM   728  CZ  TYR A 128   -10.517 -27.027  43.278  1.00 38.06   A
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ATOM   729  OH  TYR A 128    -11.661 -27.516  43.867  1.00 38.71   A
ATOM   730  C   TYR A 128    -6.283 -24.823  43.842  1.00 38.21   A
ATOM   731  O   TYR A 128    -6.538 -25.378  44.917  1.00 38.98   A
ATOM   732  N   ALA A 129    -6.513 -23.536  43.608  1.00 36.38   A
ATOM   733  CA  ALA A 129    -7.074 -22.675  44.620  1.00 36.08   A
ATOM   734  CB  ALA A 129    -5.979 -22.118  45.531  1.00 33.11   A
ATOM   735  C   ALA A 129    -7.800 -21.555  43.923  1.00 38.48   A
ATOM   736  O   ALA A 129    -7.239 -20.857  43.073  1.00 41.82   A
ATOM   737  N   LEU A 130    -9.068 -21.402  44.269  1.00 39.88   A
ATOM   738  CA  LEU A 130    -9.889 -20.353  43.699  1.00 39.61   A
ATOM   739  CB  LEU A 130    -11.242 -20.931  43.276  1.00 40.60   A
ATOM   740  CG  LEU A 130    -12.118 -20.126  42.305  1.00 43.04   A
ATOM   741  CD1 LEU A 130    -13.577 -20.402  42.644  1.00 43.37   A
ATOM   742  CD2 LEU A 130    -11.828 -18.615  42.409  1.00 42.58   A
ATOM   743  C   LEU A 130    -10.080 -19.287  44.788  1.00 40.62   A
ATOM   744  O   LEU A 130    -10.650 -19.571  45.848  1.00 40.06   A
ATOM   745  N   LEU A 131    -9.588 -18.073  44.540  1.00 42.77   A
ATOM   746  CA  LEU A 131    -9.729 -16.992  45.518  1.00 42.89   A
ATOM   747  CB  LEU A 131    -8.394 -16.328  45.830  1.00 42.47   A
ATOM   748  CG  LEU A 131    -7.096 -17.120  45.887  1.00 46.12   A
ATOM   749  CD1 LEU A 131    -5.972 -16.158  46.240  1.00 45.03   A
ATOM   750  CD2 LEU A 131    -7.207 -18.267  46.896  1.00 48.77   A
ATOM   751  C   LEU A 131    -10.648 -15.911  44.995  1.00 43.71   A
ATOM   752  O   LEU A 131    -10.784 -15.720  43.777  1.00 43.25   A
ATOM   753  N   PHE A 132    -11.274 -15.196  45.922  1.00 44.52   A
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ATOM   754  CA  PHE A 132    -12.156 -14.096  45.560  1.00 44.69   A
ATOM   755  CB  PHE A 132    -13.604 -14.419  45.940  1.00 47.03   A
ATOM   756  CG  PHE A 132    -14.554 -13.278  45.704  1.00 50.56   A
ATOM   757  CD1 PHE A 132    -14.952 -12.942  44.413  1.00 50.73   A
ATOM   758  CD2 PHE A 132    -15.030 -12.518  46.775  1.00 53.02   A
ATOM   759  CE1 PHE A 132    -15.808 -11.869  44.181  1.00 50.28   A
ATOM   760  CE2 PHE A 132    -15.885 -11.443  46.558  1.00 53.82   A
ATOM   761  CZ  PHE A 132    -16.276 -11.116  45.251  1.00 51.52   A
ATOM   762  C   PHE A 132    -11.685 -12.823  46.277  1.00 43.70   A
ATOM   763  O   PHE A 132    -11.307 -12.859  47.460  1.00 42.17   A
ATOM   764  N   SER A 133    -11.704 -11.709  45.549  1.00 41.97   A
ATOM   765  CA  SER A 133    -11.283 -10.427  46.089  1.00 43.63   A
ATOM   766  CB  SER A 133    -9.939 -10.019  45.500  1.00 45.00   A
ATOM   767  OG  SER A 133    -8.966 -11.025  45.678  1.00 51.07   A
ATOM   768  C   SER A 133    -12.288  -9.321  45.791  1.00 44.02   A
ATOM   769  O   SER A 133    -12.542  -8.972  44.641  1.00 43.30   A
ATOM   770  N   ARG A 134    -12.852  -8.756  46.841  1.00 46.89   A
ATOM   771  CA  ARG A 134    -13.812  -7.679  46.679  1.00 50.11   A
ATOM   772  CB  ARG A 134    -15.161  -8.079  47.299  1.00 48.79   A
ATOM   773  CG  ARG A 134    -15.081  -8.394  48.774  1.00 44.61   A
ATOM   774  CD  ARG A 134    -16.347  -9.035  49.281  1.00 45.37   A
ATOM   775  NE  ARG A 134    -16.258  -9.372  50.700  1.00 48.80   A
ATOM   776  CZ  ARG A 134    -16.123  -8.480  51.682  1.00 49.92   A
ATOM   777  NH1 ARG A 134    -16.060  -7.179  51.412  1.00 48.02   A
ATOM   778  NH2 ARG A 134    -16.051  -8.894  52.941  1.00 48.55   A
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ATOM   779  C   ARG A 134    -13.229  -6.450  47.380  1.00 52.29   A
ATOM   780  O   ARG A 134    -12.667  -6.561  48.478  1.00 51.57   A
ATOM   781  N   GLY A 135    -13.341  -5.293  46.729  1.00 51.95   A
ATOM   782  CA  GLY A 135    -12.825  -4.063  47.305  1.00 53.96   A
ATOM   783  C   GLY A 135    -13.709  -2.884  46.942  1.00 57.08   A
ATOM   784  O   GLY A 135    -14.756  -3.065  46.324  1.00 56.19   A
ATOM   785  N   THR A 136    -13.296  -1.678  47.325  1.00 60.63   A
ATOM   786  CA  THR A 136    -14.070  -0.487  47.004  1.00 64.41   A
ATOM   787  CB  THR A 136    -15.524  -0.631  47.508  1.00 64.44   A
ATOM   788  OG1 THR A 136    -16.384   0.228  46.746  1.00 67.53   A
ATOM   789  CG2 THR A 136    -15.622  -0.267  48.981  1.00 59.31   A
ATOM   790  C   THR A 136    -13.475   0.793  47.590  1.00 66.65   A
ATOM   791  O   THR A 136    -13.016   0.811  48.734  1.00 66.93   A
ATOM   792  N   LYS A 137    -13.469   1.864  46.800  1.00 68.98   A
ATOM   793  CA  LYS A 137    -12.963   3.141  47.297  1.00 71.69   A
ATOM   794  CB  LYS A 137    -12.422   4.005  46.154  1.00 70.74   A
ATOM   795  CG  LYS A 137    -10.967   3.727  45.804  1.00 70.35   A
ATOM   796  CD  LYS A 137    -10.796   2.436  45.030  1.00 70.21   A
ATOM   797  CE  LYS A 137    -11.240   2.603  43.591  1.00 71.89   A
ATOM   798  NZ  LYS A 137    -10.407   3.632  42.890  1.00 73.45   A
ATOM   799  C   LYS A 137    -14.147   3.833  47.965  1.00 73.03   A
ATOM   800  O   LYS A 137    -13.991   4.803  48.723  1.00 74.00   A
ATOM   801  N   GLY A 138    -15.329   3.298  47.675  1.00 71.01   A
ATOM   802  CA  GLY A 138    -16.562   3.826  48.217  1.00 68.95   A
ATOM   803  C   GLY A 138    -17.727   3.326  47.386  1.00 68.09   A
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ATOM    804  O   GLY A 138     -17.521   2.676  46.360  1.00 64.95   A
ATOM    805  N   PRO A 139     -18.968   3.639  47.788  1.00 69.29   A
ATOM    806  CD  PRO A 139     -19.280   4.704  48.760  1.00 69.05   A
ATOM    807  CA  PRO A 139     -20.180   3.213  47.075  1.00 68.53   A
ATOM    808  CB  PRO A 139     -21.285   3.989  47.787  1.00 68.70   A
ATOM    809  CG  PRO A 139     -20.575   5.246  48.222  1.00 69.56   A
ATOM    810  C   PRO A 139     -20.127   3.519  45.584  1.00 67.82   A
ATOM    811  O   PRO A 139     -19.480   4.477  45.165  1.00 70.47   A
ATOM    812  N   GLY A 140     -20.805   2.706  44.783  1.00 67.01   A
ATOM    813  CA  GLY A 140     -20.805   2.928  43.347  1.00 69.03   A
ATOM    814  C   GLY A 140     -19.445   2.699  42.710  1.00 70.29   A
ATOM    815  O   GLY A 140     -19.263   2.910  41.506  1.00 67.84   A
ATOM    816  N   GLN A 141     -18.487   2.269  43.528  1.00 72.03   A
ATOM    817  CA  GLN A 141     -17.129   1.996  43.069  1.00 73.21   A
ATOM    818  CB  GLN A 141     -16.141   2.874  43.839  1.00 70.86   A
ATOM    819  CG  GLN A 141     -16.382   4.352  43.607  1.00 69.25   A
ATOM    820  CD  GLN A 141     -15.226   5.209  44.056  1.00 69.17   A
ATOM    821  OE1 GLN A 141     -14.951   5.327  45.249  1.00 69.67   A
ATOM    822  NE2 GLN A 141     -14.531   5.807  43.099  1.00 69.51   A
ATOM    823  C   GLN A 141     -16.793   0.512  43.252  1.00 74.14   A
ATOM    824  O   GLN A 141     -15.897  -0.033  42.597  1.00 73.63   A
ATOM    825  N   ASN A 142     -17.532  -0.125  44.153  1.00 74.41   A
ATOM    826  CA  ASN A 142     -17.387  -1.541  44.458  1.00 74.91   A
ATOM    827  CB  ASN A 142     -18.714  -2.043  45.033  1.00 77.40   A
ATOM    828  CG  ASN A 142     -18.766  -3.549  45.163  1.00 81.04   A
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ATOM   829  OD1 ASN A 142     -19.839  -4.152  45.072  1.00 82.62   A
ATOM   830  ND2 ASN A 142     -17.609  -4.168  45.393  1.00 81.59   A
ATOM   831  C   ASN A 142     -16.991  -2.395  43.239  1.00 74.86   A
ATOM   832  O   ASN A 142     -17.623  -2.322  42.182  1.00 73.84   A
ATOM   833  N   PHE A 143     -15.947  -3.206  43.395  1.00 75.81   A
ATOM   834  CA  PHE A 143     -15.496  -4.084  42.317  1.00 76.18   A
ATOM   835  CB  PHE A 143     -14.329  -3.446  41.568  1.00 76.28   A
ATOM   836  CG  PHE A 143     -13.055  -3.422  42.345  1.00 75.95   A
ATOM   837  CD1 PHE A 143     -12.237  -4.546  42.396  1.00 74.80   A
ATOM   838  CD2 PHE A 143     -12.669  -2.274  43.033  1.00 77.92   A
ATOM   839  CE1 PHE A 143     -11.047  -4.528  43.122  1.00 77.10   A
ATOM   840  CE2 PHE A 143     -11.480  -2.241  43.765  1.00 78.61   A
ATOM   841  CZ  PHE A 143     -10.667  -3.371  43.808  1.00 79.19   A
ATOM   842  C   PHE A 143     -15.092  -5.476  42.815  1.00 75.21   A
ATOM   843  O   PHE A 143     -14.874  -5.695  44.008  1.00 74.84   A
ATOM   844  N   ARG A 144     -14.981  -6.407  41.876  1.00 74.55   A
ATOM   845  CA  ARG A 144     -14.629  -7.790  42.184  1.00 73.79   A
ATOM   846  CB  ARG A 144     -15.827  -8.702  41.880  1.00 76.82   A
ATOM   847  CG  ARG A 144     -17.108  -8.334  42.626  1.00 82.57   A
ATOM   848  CD  ARG A 144     -18.340  -8.494  41.732  1.00 88.12   A
ATOM   849  NE  ARG A 144     -19.588  -8.230  42.457  1.00 92.89   A
ATOM   850  CZ  ARG A 144     -20.775  -8.046  41.877  1.00 92.42   A
ATOM   851  NH1 ARG A 144     -20.888  -8.091  40.554  1.00 89.93   A
ATOM   852  NH2 ARG A 144     -21.852  -7.822  42.624  1.00 90.40   A
ATOM   853  C   ARG A 144     -13.411  -8.289  41.399  1.00 70.45   A
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ATOM   854  O   ARG A 144    -12.908  -7.618  40.493  1.00 71.36   A
ATOM   855  N   MET A 145    -12.937  -9.475  41.768  1.00 66.18   A
ATOM   856  CA  MET A 145    -11.809 -10.100  41.097  1.00 60.85   A
ATOM   857  CB  MET A 145    -10.519  -9.310  41.315  1.00 63.62   A
ATOM   858  CG  MET A 145     -9.309  -9.999  40.685  1.00 66.34   A
ATOM   859  SD  MET A 145     -7.851  -8.958  40.573  1.00 70.82   A
ATOM   860  CE  MET A 145     -7.924  -8.129  42.194  1.00 67.76   A
ATOM   861  C   MET A 145    -11.607 -11.529  41.564  1.00 56.57   A
ATOM   862  O   MET A 145    -11.229 -11.780  42.706  1.00 57.01   A
ATOM   863  N   ALA A 146    -11.880 -12.467  40.668  1.00 51.49   A
ATOM   864  CA  ALA A 146    -11.706 -13.876  40.968  1.00 49.13   A
ATOM   865  CB  ALA A 146    -12.766 -14.696  40.260  1.00 42.05   A
ATOM   866  C   ALA A 146    -10.321 -14.252  40.462  1.00 48.78   A
ATOM   867  O   ALA A 146     -9.869 -13.732  39.439  1.00 51.44   A
ATOM   868  N   THR A 147     -9.637 -15.136  41.174  1.00 46.49   A
ATOM   869  CA  THR A 147     -8.318 -15.555  40.738  1.00 44.25   A
ATOM   870  CB  THR A 147     -7.225 -14.925  41.581  1.00 43.85   A
ATOM   871  OG1 THR A 147     -7.387 -13.507  41.573  1.00 49.82   A
ATOM   872  CG2 THR A 147     -5.864 -15.269  41.020  1.00 42.42   A
ATOM   873  C   THR A 147     -8.201 -17.061  40.838  1.00 44.03   A
ATOM   874  O   THR A 147     -8.708 -17.668  41.777  1.00 46.81   A
ATOM   875  N   LEU A 148     -7.534 -17.668  39.865  1.00 43.69   A
ATOM   876  CA  LEU A 148     -7.374 -19.111  39.880  1.00 42.50   A
ATOM   877  CB  LEU A 148     -8.032 -19.731  38.648  1.00 40.72   A
ATOM   878  CG  LEU A 148     -7.738 -21.228  38.472  1.00 38.40   A
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ATOM   879  CD1 LEU A 148    -8.257 -22.027  39.662  1.00 33.14    A
ATOM   880  CD2 LEU A 148    -8.383 -21.700  37.174  1.00 40.34    A
ATOM   881  C   LEU A 148    -5.917 -19.529  39.932  1.00 43.54    A
ATOM   882  O   LEU A 148    -5.172 -19.348  38.964  1.00 41.99    A
ATOM   883  N   TYR A 149    -5.505 -20.089  41.063  1.00 43.29    A
ATOM   884  CA  TYR A 149    -4.127 -20.529  41.187  1.00 44.40    A
ATOM   885  CB  TYR A 149    -3.579 -20.188  42.557  1.00 45.21    A
ATOM   886  CG  TYR A 149    -3.203 -18.731  42.702  1.00 50.01    A
ATOM   887  CD1 TYR A 149    -4.145 -17.778  43.094  1.00 54.12    A
ATOM   888  CE1 TYR A 149    -3.784 -16.432  43.272  1.00 58.48    A
ATOM   889  CD2 TYR A 149    -1.890 -18.312  42.482  1.00 51.47    A
ATOM   890  CE2 TYR A 149    -1.516 -16.982  42.653  1.00 55.89    A
ATOM   891  CZ  TYR A 149    -2.463 -16.045  43.051  1.00 58.78    A
ATOM   892  OH  TYR A 149    -2.078 -14.739  43.238  1.00 60.02    A
ATOM   893  C   TYR A 149    -4.003 -22.025  40.933  1.00 44.94    A
ATOM   894  O   TYR A 149    -4.868 -22.804  41.342  1.00 44.18    A
ATOM   895  N   SER A 150    -2.928 -22.410  40.240  1.00 44.38    A
ATOM   896  CA  SER A 150    -2.668 -23.808  39.914  1.00 41.89    A
ATOM   897  CB  SER A 150    -2.740 -24.004  38.393  1.00 40.38    A
ATOM   898  OG  SER A 150    -2.579 -25.371  38.026  1.00 40.76    A
ATOM   899  C   SER A 150    -1.297 -24.271  40.428  1.00 40.25    A
ATOM   900  O   SER A 150    -0.342 -23.479  40.500  1.00 39.43    A
ATOM   901  N   ARG A 151    -1.202 -25.547  40.803  1.00 36.60    A
ATOM   902  CA  ARG A 151     0.074 -26.082  41.259  1.00 34.90    A
ATOM   903  CB  ARG A 151    -0.117 -27.347  42.104  1.00 28.21    A
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ATOM   904  CG  ARG A 151    -0.656 -27.122  43.514  1.00 25.36   A
ATOM   905  CD  ARG A 151     0.340 -26.356  44.388  1.00 23.83   A
ATOM   906  NE  ARG A 151    -0.013 -26.412  45.807  1.00 24.06   A
ATOM   907  CZ  ARG A 151     0.683 -25.813  46.770  1.00 23.10   A
ATOM   908  NH1 ARG A 151     1.761 -25.100  46.465  1.00 21.98   A
ATOM   909  NH2 ARG A 151     0.328 -25.958  48.046  1.00 24.51   A
ATOM   910  C   ARG A 151     0.890 -26.416  40.015  1.00 35.99   A
ATOM   911  O   ARG A 151     2.095 -26.617  40.071  1.00 38.57   A
ATOM   912  N   THR A 152     0.222 -26.458  38.879  1.00 38.62   A
ATOM   913  CA  THR A 152     0.893 -26.782  37.631  1.00 41.72   A
ATOM   914  CB  THR A 152     0.314 -28.060  37.036  1.00 41.39   A
ATOM   915  OG1 THR A 152    -1.108 -27.927  36.952  1.00 41.87   A
ATOM   916  CG2 THR A 152     0.650 -29.253  37.911  1.00 38.85   A
ATOM   917  C   THR A 152     0.659 -25.647  36.664  1.00 45.58   A
ATOM   918  O   THR A 152    -0.238 -24.831  36.878  1.00 51.32   A
ATOM   919  N   GLN A 153     1.457 -25.573  35.608  1.00 46.22   A
ATOM   920  CA  GLN A 153     1.273 -24.502  34.637  1.00 47.59   A
ATOM   921  CB  GLN A 153     2.577 -24.241  33.902  1.00 43.91   A
ATOM   922  CG  GLN A 153     3.668 -23.760  34.825  1.00 45.50   A
ATOM   923  CD  GLN A 153     5.026 -23.783  34.173  1.00 43.12   A
ATOM   924  OE1 GLN A 153     5.196 -23.280  33.071  1.00 44.43   A
ATOM   925  NE2 GLN A 153     6.007 -24.362  34.854  1.00 46.67   A
ATOM   926  C   GLN A 153     0.170 -24.889  33.666  1.00 52.48   A
ATOM   927  O   GLN A 153    -0.458 -24.033  33.047  1.00 54.29   A
ATOM   928  N   THR A 154    -0.068 -26.190  33.541  1.00 57.63   A
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ATOM   929  CA  THR A 154     -1.118 -26.686  32.667  1.00 61.55    A
ATOM   930  CB  THR A 154     -0.829 -28.128  32.220  1.00 62.65    A
ATOM   931  OG1 THR A 154     -1.977 -28.654  31.540  1.00 64.17    A
ATOM   932  CG2 THR A 154     -0.491 -29.003  33.426  1.00 60.73    A
ATOM   933  C   THR A 154     -2.411 -26.652  33.469  1.00 64.71    A
ATOM   934  O   THR A 154     -2.415 -26.973  34.657  1.00 65.83    A
ATOM   935  N   LEU A 155     -3.509 -26.263  32.831  1.00 67.39    A
ATOM   936  CA  LEU A 155     -4.787 -26.179  33.535  1.00 70.46    A
ATOM   937  CB  LEU A 155     -5.283 -24.728  33.518  1.00 68.52    A
ATOM   938  CG  LEU A 155     -6.259 -24.291  34.616  1.00 65.62    A
ATOM   939  CD1 LEU A 155     -5.572 -24.339  35.968  1.00 64.23    A
ATOM   940  CD2 LEU A 155     -6.739 -22.881  34.332  1.00 63.47    A
ATOM   941  C   LEU A 155     -5.866 -27.113  32.970  1.00 72.41    A
ATOM   942  O   LEU A 155     -6.189 -27.069  31.782  1.00 74.08    A
ATOM   943  N   LYS A 156     -6.423 -27.950  33.843  1.00 72.81    A
ATOM   944  CA  LYS A 156     -7.457 -28.917  33.482  1.00 71.61    A
ATOM   945  CB  LYS A 156     -7.656 -29.861  34.660  1.00 72.76    A
ATOM   946  CG  LYS A 156     -8.563 -31.037  34.411  1.00 75.31    A
ATOM   947  CD  LYS A 156     -8.518 -31.997  35.609  1.00 77.01    A
ATOM   948  CE  LYS A 156     -7.131 -32.624  35.781  1.00 77.35    A
ATOM   949  NZ  LYS A 156     -7.020 -33.484  36.993  1.00 77.04    A
ATOM   950  C   LYS A 156     -8.771 -28.219  33.125  1.00 71.35    A
ATOM   951  O   LYS A 156     -9.241 -27.357  33.865  1.00 72.68    A
ATOM   952  N   ASP A 157     -9.368 -28.597  31.997  1.00 70.30    A
ATOM   953  CA  ASP A 157    -10.617 -27.981  31.539  1.00 68.59    A
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ATOM    954  CB  ASP A 157    -11.173 -28.711  30.308  1.00 68.09   A
ATOM    955  CG  ASP A 157    -10.446 -28.338  29.028  1.00 68.81   A
ATOM    956  OD1 ASP A 157    -11.012 -28.564  27.936  1.00 68.86   A
ATOM    957  OD2 ASP A 157    -9.307 -27.824  29.109  1.00 68.64   A
ATOM    958  C   ASP A 157    -11.723 -27.860  32.577  1.00 68.17   A
ATOM    959  O   ASP A 157    -12.291 -26.779  32.751  1.00 66.02   A
ATOM    960  N   GLU A 158    -12.046 -28.957  33.256  1.00 68.99   A
ATOM    961  CA  GLU A 158    -13.105 -28.904  34.261  1.00 70.32   A
ATOM    962  CB  GLU A 158    -13.251 -30.246  34.976  1.00 72.37   A
ATOM    963  CG  GLU A 158    -11.947 -30.899  35.372  1.00 78.69   A
ATOM    964  CD  GLU A 158    -12.033 -32.419  35.311  1.00 82.57   A
ATOM    965  OE1 GLU A 158    -12.844 -33.011  36.061  1.00 81.84   A
ATOM    966  OE2 GLU A 158    -11.293 -33.022  34.502  1.00 84.84   A
ATOM    967  C   GLU A 158    -12.796 -27.807  35.254  1.00 69.10   A
ATOM    968  O   GLU A 158    -13.694 -27.178  35.804  1.00 67.41   A
ATOM    969  N   LEU A 159    -11.512 -27.569  35.466  1.00 70.39   A
ATOM    970  CA  LEU A 159    -11.096 -26.521  36.375  1.00 70.62   A
ATOM    971  CB  LEU A 159    -9.608 -26.667  36.705  1.00 72.90   A
ATOM    972  CG  LEU A 159    -9.266 -27.035  38.152  1.00 71.29   A
ATOM    973  CD1 LEU A 159    -10.266 -28.043  38.713  1.00 73.85   A
ATOM    974  CD2 LEU A 159    -7.858 -27.592  38.186  1.00 72.04   A
ATOM    975  C   LEU A 159    -11.369 -25.177  35.716  1.00 68.60   A
ATOM    976  O   LEU A 159    -11.785 -24.224  36.375  1.00 68.52   A
ATOM    977  N   LYS A 160    -11.140 -25.097  34.411  1.00 66.56   A
ATOM    978  CA  LYS A 160    -11.395 -23.849  33.714  1.00 66.04   A
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ATOM   979  CB  LYS A 160   -10.941 -23.931  32.254  1.00 66.84   A
ATOM   980  CG  LYS A 160   -9.431 -23.947  32.083  1.00 68.12   A
ATOM   981  CD  LYS A 160   -9.007 -23.675  30.648  1.00 67.76   A
ATOM   982  CE  LYS A 160   -9.354 -24.828  29.727  1.00 68.38   A
ATOM   983  NZ  LYS A 160   -8.843 -24.581  28.352  1.00 69.27   A
ATOM   984  C   LYS A 160   -12.882 -23.572  33.775  1.00 65.61   A
ATOM   985  O   LYS A 160   -13.309 -22.454  34.072  1.00 64.28   A
ATOM   986  N   GLU A 161   -13.667 -24.609  33.509  1.00 66.07   A
ATOM   987  CA  GLU A 161   -15.119 -24.495  33.524  1.00 67.41   A
ATOM   988  CB  GLU A 161   -15.732 -25.852  33.162  1.00 72.11   A
ATOM   989  CG  GLU A 161   -17.236 -25.860  32.915  1.00 78.85   A
ATOM   990  CD  GLU A 161   -18.038 -26.299  34.135  1.00 85.16   A
ATOM   991  OE1 GLU A 161   -17.583 -27.226  34.850  1.00 86.78   A
ATOM   992  OE2 GLU A 161   -19.130 -25.729  34.366  1.00 85.92   A
ATOM   993  C   GLU A 161   -15.574 -24.036  34.907  1.00 64.62   A
ATOM   994  O   GLU A 161   -16.447 -23.171  35.041  1.00 62.40   A
ATOM   995  N   LYS A 162   -14.959 -24.607  35.936  1.00 61.68   A
ATOM   996  CA  LYS A 162   -15.299 -24.255  37.308  1.00 58.49   A
ATOM   997  CB  LYS A 162   -14.516 -25.118  38.301  1.00 57.08   A
ATOM   998  CG  LYS A 162   -14.909 -24.877  39.748  1.00 52.74   A
ATOM   999  CD  LYS A 162   -13.720 -25.005  40.695  1.00 52.91   A
ATOM   1000  CE  LYS A 162   -13.062 -26.378  40.620  1.00 54.40   A
ATOM   1001  NZ  LYS A 162   -13.972 -27.464  41.079  1.00 58.06   A
ATOM   1002  C   LYS A 162   -15.001 -22.790  37.582  1.00 56.70   A
ATOM   1003  O   LYS A 162   -15.753 -22.135  38.292  1.00 57.73   A
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ATOM   1004  N   PHE A 163    -13.898 -22.285  37.028  1.00 56.10   A
ATOM   1005  CA  PHE A 163    -13.505 -20.885  37.218  1.00 54.44   A
ATOM   1006  CB  PHE A 163    -12.088 -20.638  36.667  1.00 51.03   A
ATOM   1007  CG  PHE A 163    -11.620 -19.204  36.781  1.00 44.03   A
ATOM   1008  CD1 PHE A 163    -11.203 -18.504  35.660  1.00 43.43   A
ATOM   1009  CD2 PHE A 163    -11.575 -18.563  38.011  1.00 41.07   A
ATOM   1010  CE1 PHE A 163    -10.743 -17.177  35.765  1.00 40.22   A
ATOM   1011  CE2 PHE A 163    -11.115 -17.235  38.117  1.00 38.32   A
ATOM   1012  CZ  PHE A 163    -10.702 -16.552  36.991  1.00 34.24   A
ATOM   1013  C   PHE A 163    -14.494 -19.998  36.482  1.00 56.29   A
ATOM   1014  O   PHE A 163    -14.910 -18.958  36.986  1.00 55.86   A
ATOM   1015  N   THR A 164    -14.864 -20.429  35.281  1.00 57.68   A
ATOM   1016  CA  THR A 164    -15.807 -19.694  34.465  1.00 59.18   A
ATOM   1017  CB  THR A 164    -16.103 -20.449  33.167  1.00 62.54   A
ATOM   1018  OG1 THR A 164    -14.887 -20.598  32.418  1.00 66.72   A
ATOM   1019  CG2 THR A 164    -17.137 -19.691  32.325  1.00 64.98   A
ATOM   1020  C   THR A 164    -17.102 -19.525  35.228  1.00 58.45   A
ATOM   1021  O   THR A 164    -17.550 -18.408  35.484  1.00 58.64   A
ATOM   1022  N   THR A 165    -17.697 -20.650  35.590  1.00 57.76   A
ATOM   1023  CA  THR A 165    -18.949 -20.653  36.326  1.00 57.32   A
ATOM   1024  CB  THR A 165    -19.300 -22.068  36.809  1.00 59.13   A
ATOM   1025  OG1 THR A 165    -19.423 -22.945  35.681  1.00 60.25   A
ATOM   1026  CG2 THR A 165    -20.600 -22.058  37.575  1.00 59.06   A
ATOM   1027  C   THR A 165    -18.882 -19.735  37.533  1.00 55.51   A
ATOM   1028  O   THR A 165    -19.756 -18.884  37.722  1.00 53.88   A
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ATOM   1029  N   PHE A 166   -17.852 -19.899  38.357  1.00 55.03   A
ATOM   1030  CA  PHE A 166   -17.748 -19.052  39.529  1.00 56.67   A
ATOM   1031  CB  PHE A 166   -16.520 -19.373  40.372  1.00 55.47   A
ATOM   1032  CG  PHE A 166   -16.287 -18.365  41.467  1.00 55.56   A
ATOM   1033  CD1 PHE A 166   -17.173 -18.270  42.548  1.00 55.01   A
ATOM   1034  CD2 PHE A 166   -15.252 -17.435  41.369  1.00 52.09   A
ATOM   1035  CE1 PHE A 166   -17.036 -17.250  43.522  1.00 49.17   A
ATOM   1036  CE2 PHE A 166   -15.108 -16.416  42.331  1.00 50.06   A
ATOM   1037  CZ  PHE A 166   -16.007 -16.326  43.408  1.00 48.33   A
ATOM   1038  C   PHE A 166   -17.664 -17.600  39.112  1.00 58.10   A
ATOM   1039  O   PHE A 166   -18.306 -16.739  39.709  1.00 58.87   A
ATOM   1040  N   SER A 167   -16.856 -17.347  38.089  1.00 59.52   A
ATOM   1041  CA  SER A 167   -16.647 -16.007  37.561  1.00 61.95   A
ATOM   1042  CB  SER A 167   -15.751 -16.070  36.320  1.00 64.01   A
ATOM   1043  OG  SER A 167   -14.496 -16.670  36.603  1.00 68.65   A
ATOM   1044  C   SER A 167   -17.969 -15.342  37.195  1.00 62.37   A
ATOM   1045  O   SER A 167   -18.236 -14.203  37.576  1.00 60.74   A
ATOM   1046  N   LYS A 168   -18.794 -16.059  36.445  1.00 64.25   A
ATOM   1047  CA  LYS A 168   -20.079 -15.519  36.032  1.00 65.94   A
ATOM   1048  CB  LYS A 168   -20.693 -16.374  34.918  1.00 68.53   A
ATOM   1049  CG  LYS A 168   -19.931 -16.315  33.592  1.00 70.35   A
ATOM   1050  CD  LYS A 168   -20.558 -17.226  32.537  1.00 72.07   A
ATOM   1051  CE  LYS A 168   -19.737 -17.228  31.250  1.00 74.35   A
ATOM   1052  NZ  LYS A 168   -20.251 -18.206  30.238  1.00 76.09   A
ATOM   1053  C   LYS A 168   -21.016 -15.454  37.222  1.00 65.80   A
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ATOM   1054  O   LYS A 168   -21.728 -14.467  37.399  1.00 65.98   A
ATOM   1055  N   GLY A 169   -21.000 -16.502  38.045  1.00 65.48   A
ATOM   1056  CA  GLY A 169   -21.851 -16.528  39.220  1.00 62.40   A
ATOM   1057  C   GLY A 169   -21.627 -15.302  40.088  1.00 62.09   A
ATOM   1058  O   GLY A 169   -22.241 -15.164  41.141  1.00 64.40   A
ATOM   1059  N   GLN A 170   -20.764 -14.394  39.641  1.00 60.28   A
ATOM   1060  CA  GLN A 170   -20.455 -13.202  40.410  1.00 60.01   A
ATOM   1061  CB  GLN A 170   -19.000 -13.268  40.878  1.00 60.09   A
ATOM   1062  CG  GLN A 170   -18.720 -14.443  41.797  1.00 59.29   A
ATOM   1063  CD  GLN A 170   -19.396 -14.276  43.144  1.00 60.40   A
ATOM   1064  OE1 GLN A 170   -19.838 -15.255  43.766  1.00 58.57   A
ATOM   1065  NE2 GLN A 170   -19.472 -13.028  43.612  1.00 56.49   A
ATOM   1066  C   GLN A 170   -20.688 -11.920  39.631  1.00 61.05   A
ATOM   1067  O   GLN A 170   -20.510 -10.825  40.159  1.00 58.93   A
ATOM   1068  N   GLY A 171   -21.085 -12.059  38.373  1.00 64.02   A
ATOM   1069  CA  GLY A 171   -21.325 -10.884  37.560  1.00 69.34   A
ATOM   1070  C   GLY A 171   -20.146 -10.546  36.667  1.00 72.57   A
ATOM   1071  O   GLY A 171   -19.940  -9.388  36.293  1.00 73.44   A
ATOM   1072  N   LEU A 172   -19.356 -11.558  36.332  1.00 74.78   A
ATOM   1073  CA  LEU A 172   -18.211 -11.369  35.455  1.00 76.66   A
ATOM   1074  CB  LEU A 172   -16.941 -11.959  36.082  1.00 76.52   A
ATOM   1075  CG  LEU A 172   -16.304 -11.200  37.255  1.00 75.12   A
ATOM   1076  CD1 LEU A 172   -15.622  -9.945  36.746  1.00 74.02   A
ATOM   1077  CD2 LEU A 172   -17.363 -10.852  38.295  1.00 76.24   A
ATOM   1078  C   LEU A 172   -18.551 -12.095  34.166  1.00 77.94   A
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ATOM   1079  O   LEU A 172   -18.950 -13.261  34.192  1.00 78.67   A
ATOM   1080  N   THR A 173   -18.410 -11.407  33.039  1.00 78.36   A
ATOM   1081  CA  THR A 173   -18.727 -12.017  31.755  1.00 79.91   A
ATOM   1082  CB  THR A 173   -19.248 -10.989  30.752  1.00 80.74   A
ATOM   1083  OG1 THR A 173   -18.138 -10.416  30.051  1.00 82.51   A
ATOM   1084  CG2 THR A 173   -20.021  -9.888  31.467  1.00 81.84   A
ATOM   1085  C   THR A 173   -17.516 -12.679  31.130  1.00 79.82   A
ATOM   1086  O   THR A 173   -16.417 -12.653  31.684  1.00 80.17   A
ATOM   1087  N   GLU A 174   -17.732 -13.257  29.955  1.00 80.54   A
ATOM   1088  CA  GLU A 174   -16.681 -13.945  29.222  1.00 82.10   A
ATOM   1089  CB  GLU A 174   -17.261 -14.552  27.940  1.00 85.56   A
ATOM   1090  CG  GLU A 174   -16.541 -15.799  27.443  1.00 89.66   A
ATOM   1091  CD  GLU A 174   -16.562 -16.933  28.460  1.00 92.42   A
ATOM   1092  OE1 GLU A 174   -15.909 -16.798  29.520  1.00 94.51   A
ATOM   1093  OE2 GLU A 174   -17.235 -17.957  28.204  1.00 93.50   A
ATOM   1094  C   GLU A 174   -15.543 -12.991  28.880  1.00 79.44   A
ATOM   1095  O   GLU A 174   -14.371 -13.358  28.932  1.00 77.18   A
ATOM   1096  N   GLU A 175   -15.896 -11.760  28.535  1.00 77.88   A
ATOM   1097  CA  GLU A 175   -14.897 -10.764  28.188  1.00 76.60   A
ATOM   1098  CB  GLU A 175   -15.569  -9.498  27.662  1.00 78.33   A
ATOM   1099  CG  GLU A 175   -16.347  -8.749  28.723  1.00 82.41   A
ATOM   1100  CD  GLU A 175   -16.962  -7.465  28.209  1.00 84.48   A
ATOM   1101  OE1 GLU A 175   -16.204  -6.555  27.819  1.00 86.80   A
ATOM   1102  OE2 GLU A 175   -18.207  -7.365  28.198  1.00 84.05   A
ATOM   1103  C   GLU A 175   -14.047 -10.412  29.399  1.00 74.57   A
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ATOM   1104  O   GLU A 175   -13.009  -9.772  29.259  1.00 75.53   A
ATOM   1105  N   ASP A 176   -14.486 -10.818  30.587  1.00 72.84   A
ATOM   1106  CA  ASP A 176   -13.737 -10.525  31.808  1.00 71.42   A
ATOM   1107  CB  ASP A 176   -14.680 -10.222  32.974  1.00 72.57   A
ATOM   1108  CG  ASP A 176   -15.839  -9.341  32.576  1.00 74.87   A
ATOM   1109  OD1 ASP A 176   -16.734  -9.846  31.873  1.00 74.74   A
ATOM   1110  OD2 ASP A 176   -15.853  -8.150  32.963  1.00 75.76   A
ATOM   1111  C   ASP A 176   -12.855 -11.700  32.203  1.00 69.16   A
ATOM   1112  O   ASP A 176   -11.823 -11.530  32.841  1.00 69.29   A
ATOM   1113  N   ILE A 177   -13.275 -12.894  31.817  1.00 67.03   A
ATOM   1114  CA  ILE A 177   -12.545 -14.101  32.150  1.00 66.00   A
ATOM   1115  CB  ILE A 177   -13.477 -15.311  32.114  1.00 66.64   A
ATOM   1116  CG2 ILE A 177   -12.815 -16.492  32.806  1.00 66.54   A
ATOM   1117  CG1 ILE A 177   -14.796 -14.959  32.802  1.00 67.72   A
ATOM   1118  CD1 ILE A 177   -15.848 -16.051  32.702  1.00 70.45   A
ATOM   1119  C   ILE A 177   -11.370 -14.364  31.218  1.00 65.75   A
ATOM   1120  O   ILE A 177   -11.546 -14.700  30.045  1.00 67.30   A
ATOM   1121  N   VAL A 178   -10.166 -14.224  31.756  1.00 63.32   A
ATOM   1122  CA  VAL A 178   -8.955 -14.447  30.985  1.00 59.20   A
ATOM   1123  CB  VAL A 178   -8.006 -13.243  31.082  1.00 58.03   A
ATOM   1124  CG1 VAL A 178   -6.856 -13.419  30.114  1.00 60.86   A
ATOM   1125  CG2 VAL A 178   -8.755 -11.962  30.803  1.00 58.82   A
ATOM   1126  C   VAL A 178   -8.201 -15.646  31.529  1.00 56.79   A
ATOM   1127  O   VAL A 178   -8.326 -15.993  32.698  1.00 59.10   A
ATOM   1128  N   PHE A 179   -7.419 -16.284  30.680  1.00 55.88   A
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ATOM   1129  CA  PHE A 179     -6.607 -17.401  31.127  1.00 56.34   A
ATOM   1130  CB  PHE A 179     -7.052 -18.707  30.483  1.00 53.11   A
ATOM   1131  CG  PHE A 179     -8.356 -19.202  31.007  1.00 53.55   A
ATOM   1132  CD1 PHE A 179     -9.548 -18.869  30.373  1.00 52.88   A
ATOM   1133  CD2 PHE A 179     -8.401 -19.980  32.162  1.00 55.37   A
ATOM   1134  CE1 PHE A 179    -10.771 -19.305  30.878  1.00 51.85   A
ATOM   1135  CE2 PHE A 179     -9.619 -20.423  32.680  1.00 54.21   A
ATOM   1136  CZ  PHE A 179    -10.809 -20.084  32.034  1.00 54.72   A
ATOM   1137  C   PHE A 179     -5.175 -17.082  30.771  1.00 56.94   A
ATOM   1138  O   PHE A 179     -4.750 -17.224  29.629  1.00 58.94   A
ATOM   1139  N   LEU A 180     -4.444 -16.616  31.770  1.00 56.14   A
ATOM   1140  CA  LEU A 180     -3.060 -16.233  31.596  1.00 57.47   A
ATOM   1141  CB  LEU A 180     -2.437 -15.987  32.963  1.00 57.31   A
ATOM   1142  CG  LEU A 180     -3.361 -15.108  33.810  1.00 56.20   A
ATOM   1143  CD1 LEU A 180     -3.093 -15.359  35.294  1.00 55.59   A
ATOM   1144  CD2 LEU A 180     -3.185 -13.645  33.424  1.00 52.11   A
ATOM   1145  C   LEU A 180     -2.274 -17.288  30.843  1.00 58.94   A
ATOM   1146  O   LEU A 180     -2.327 -18.472  31.176  1.00 59.95   A
ATOM   1147  N   PRO A 181     -1.549 -16.867  29.799  1.00 60.40   A
ATOM   1148  CD  PRO A 181     -1.633 -15.518  29.208  1.00 59.15   A
ATOM   1149  CA  PRO A 181     -0.727 -17.741  28.961  1.00 63.62   A
ATOM   1150  CB  PRO A 181     -0.619 -16.953  27.666  1.00 61.46   A
ATOM   1151  CG  PRO A 181     -0.533 -15.549  28.166  1.00 57.89   A
ATOM   1152  C   PRO A 181      0.640 -17.966  29.598  1.00 67.50   A
ATOM   1153  O   PRO A 181      1.154 -17.086  30.284  1.00 68.06   A
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ATOM   1154  N   GLN A 182     1.223 -19.138  29.364  1.00 70.91   A
ATOM   1155  CA  GLN A 182     2.538 -19.458  29.912  1.00 74.68   A
ATOM   1156  CB  GLN A 182     2.945 -20.894  29.570  1.00 74.56   A
ATOM   1157  CG  GLN A 182     1.933 -21.971  29.892  1.00 76.21   A
ATOM   1158  CD  GLN A 182     2.520 -23.373  29.728  1.00 77.21   A
ATOM   1159  OE1 GLN A 182     1.790 -24.364  29.679  1.00 77.14   A
ATOM   1160  NE2 GLN A 182     3.848 -23.458  29.655  1.00 74.73   A
ATOM   1161  C   GLN A 182     3.599 -18.527  29.329  1.00 77.11   A
ATOM   1162  O   GLN A 182     3.851 -18.546  28.127  1.00 77.72   A
ATOM   1163  N   PRO A 183     4.232 -17.696  30.169  1.00 79.26   A
ATOM   1164  CD  PRO A 183     3.959 -17.395  31.585  1.00 78.43   A
ATOM   1165  CA  PRO A 183     5.260 -16.800  29.637  1.00 82.07   A
ATOM   1166  CB  PRO A 183     5.334 -15.706  30.691  1.00 79.37   A
ATOM   1167  CG  PRO A 183     5.106 -16.472  31.944  1.00 78.09   A
ATOM   1168  C   PRO A 183     6.576 -17.567  29.497  1.00 86.60   A
ATOM   1169  O   PRO A 183     7.309 -17.743  30.474  1.00 88.58   A
ATOM   1170  N   ASP A 184     6.856 -18.037  28.285  1.00 89.35   A
ATOM   1171  CA  ASP A 184     8.074 -18.790  27.996  1.00 91.71   A
ATOM   1172  CB  ASP A 184     8.376 -18.720  26.496  1.00 90.76   A
ATOM   1173  CG  ASP A 184     8.268 -17.308  25.946  1.00 91.18   A
ATOM   1174  OD1 ASP A 184     9.028 -16.421  26.394  1.00 92.29   A
ATOM   1175  OD2 ASP A 184     7.415 -17.080  25.064  1.00 91.05   A
ATOM   1176  C   ASP A 184     9.287 -18.298  28.786  1.00 93.40   A
ATOM   1177  O   ASP A 184    10.143 -19.090  29.187  1.00 93.35   A
ATOM   1178  N   LYS A 185     9.347 -16.989  29.014  1.00 95.42   A
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ATOM   1179  CA  LYS A 185    10.451 -16.376  29.744  1.00 95.83   A
ATOM   1180  CB  LYS A 185    10.661 -14.943  29.239  1.00 96.46   A
ATOM   1181  CG  LYS A 185    11.974 -14.287  29.659  1.00 98.21   A
ATOM   1182  CD  LYS A 185    12.077 -12.872  29.092  1.00100.88   A
ATOM   1183  CE  LYS A 185    13.448 -12.250  29.335  1.00102.05   A
ATOM   1184  NZ  LYS A 185    13.760 -12.116  30.785  1.00104.65   A
ATOM   1185  C   LYS A 185    10.192 -16.366  31.250  1.00 95.82   A
ATOM   1186  O   LYS A 185     9.619 -17.299  31.804  1.00 94.92   A
ATOM   1187  N   CYS A 186    10.627 -15.291  31.890  1.00 96.28   A
ATOM   1188  CA  CYS A 186    10.492 -15.074  33.321  1.00 97.57   A
ATOM   1189  C   CYS A 186    10.358 -16.297  34.239  1.00 99.39   A
ATOM   1190  O   CYS A 186    11.328 -16.685  34.887  1.00100.13   A
ATOM   1191  CB  CYS A 186     9.352 -14.098  33.575  1.00 95.95   A
ATOM   1192  SG  CYS A 186     9.759 -13.012  34.968  1.00 98.27   A
ATOM   1193  N   ILE A 187     9.171 -16.889  34.324  1.00101.87   A
ATOM   1194  CA  ILE A 187     8.976 -18.066  35.175  1.00103.65   A
ATOM   1195  CB  ILE A 187     7.513 -18.517  35.189  1.00100.55   A
ATOM   1196  CG2 ILE A 187     7.375 -19.795  35.996  1.00100.83   A
ATOM   1197  CG1 ILE A 187     6.631 -17.417  35.765  1.00 97.38   A
ATOM   1198  CD1 ILE A 187     5.172 -17.755  35.710  1.00 94.71   A
ATOM   1199  C   ILE A 187     9.805 -19.235  34.659  1.00107.87   A
ATOM   1200  O   ILE A 187    10.074 -19.324  33.463  1.00109.90   A
ATOM   1201  N   GLN A 188    10.193 -20.138  35.554  1.00111.72   A
ATOM   1202  CA  GLN A 188    10.998 -21.296  35.168  1.00116.09   A
ATOM   1203  CB  GLN A 188    11.467 -22.053  36.412  1.00117.84   A
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ATOM   1204  CG  GLN A 188   12.347 -21.230  37.335  1.00120.37   A
ATOM   1205  CD  GLN A 188   13.626 -20.764  36.665  1.00120.88   A
ATOM   1206  OE1 GLN A 188   13.592 -20.088  35.637  1.00121.37   A
ATOM   1207  NE2 GLN A 188   14.763 -21.121  37.250  1.00120.87   A
ATOM   1208  C   GLN A 188   10.251 -22.249  34.241  1.00118.05   A
ATOM   1209  O   GLN A 188    9.512 -23.125  34.696  1.00118.11   A
ATOM   1210  N   GLU A 189   10.462 -22.070  32.938  1.00120.59   A
ATOM   1211  CA  GLU A 189    9.830 -22.892  31.904  1.00121.84   A
ATOM   1212  CB  GLU A 189   10.296 -24.352  32.015  1.00122.00   A
ATOM   1213  CG  GLU A 189   10.004 -25.210  30.781  1.00120.78   A
ATOM   1214  CD  GLU A 189   10.895 -24.865  29.600  1.00120.07   A
ATOM   1215  OE1 GLU A 189   10.855 -23.705  29.142  1.00119.99   A
ATOM   1216  OE2 GLU A 189   11.636 -25.753  29.129  1.00120.26   A
ATOM   1217  C   GLU A 189    8.308 -22.830  32.001  1.00122.03   A
ATOM   1218  O   GLU A 189    7.697 -23.870  32.332  1.00121.94   A
ATOM   1219  OT  GLU A 189    7.748 -21.740  31.749  1.00121.99   A
ATOM   1220  OH2 WAT W 200    6.622 -15.627  50.105  1.00 32.46   W
ATOM   1221  OH2 WAT W 201  -13.735 -12.460  49.782  1.00 32.29   W
ATOM   1222  OH2 WAT W 203  -15.181 -17.532  49.376  1.00 37.27   W
ATOM   1223  OH2 WAT W 204  -15.122 -18.405  51.994  1.00 34.03   W
ATOM   1224  OH2 WAT W 205  -11.282 -24.928  56.736  1.00 73.37   W
ATOM   1225  OH2 WAT W 206    1.440 -10.333  58.570  1.00 44.34   W
ATOM   1226  OH2 WAT W 207   -6.812 -15.884  58.098  1.00 42.35   W
ATOM   1227  OH2 WAT W 208  -12.965 -18.384  52.877  1.00 32.22   W
ATOM   1228  OH2 WAT W 209    4.880 -15.352  25.292  1.00 74.89   W
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ATOM   1229  OH2 WAT W 210   -14.011   4.577  39.538  1.00 40.06   W
ATOM   1230  OH2 WAT W 211   -18.207  -6.622  46.065  1.00 52.52   W
ATOM   1231  OH2 WAT W 212   -1.942 -21.966  60.262  1.00 54.38   W
ATOM   1232  OH2 WAT W 213   -10.025   2.738  39.161  1.00 89.20   W
ATOM   1233  OH2 WAT W 214   -7.536   3.097  34.665  1.00 66.61   W
ATOM   1234  OH2 WAT W 215   -6.865   4.692  30.926  1.00 68.98   W
ATOM   1235  OH2 WAT W 216   -5.056   6.596  40.134  1.00 47.28   W
ATOM   1236  OH2 WAT W 217   -3.634   4.447  40.783  1.00 83.64   W
ATOM   1237  OH2 WAT W 218    7.394 -11.367  25.281  1.00 57.42   W
ATOM   1238  OH2 WAT W 219    9.310 -21.158  25.421  1.00 59.90   W
ATOM   1239  OH2 WAT W 220   10.366 -24.989  26.400  1.00 58.73   W
ATOM   1240  OH2 WAT W 221   -4.606   3.348  26.800  1.00 65.51   W
ATOM   1241  OH2 WAT W 222   -2.367   6.175  29.500  1.00 42.56   W
ATOM   1242  OH2 WAT W 223   -4.942   6.474  32.978  1.00 55.44   W
ATOM   1243  OH2 WAT W 224   -20.607 -20.158  31.933  1.00 59.45   W
ATOM   1244  OH2 WAT W 225   -25.839 -21.690  29.465  1.00 67.32   W
ATOM   1245  OH2 WAT W 226   -27.537 -18.582  31.205  1.00 63.04   W
ATOM   1246  OH2 WAT W 227    1.524  -5.767  50.296  1.00 37.51   W
ATOM   1247  OH2 WAT W 228   -1.401  -5.768  53.755  1.00 58.16   W
ATOM   1248  OH2 WAT W 229    1.756   0.015  54.499  1.00 67.42   W
ATOM   1249  OH2 WAT W 230    7.581  -7.200  53.652  1.00 51.29   W
ATOM   1250  OH2 WAT W 231   10.564  -9.875  52.898  1.00 34.20   W
ATOM   1251  OH2 WAT W 232   -12.228   8.044  49.309  1.00 43.27   W
ATOM   1252  OH2 WAT W 233    3.892  -5.291  53.253  1.00 54.32   W
ATOM   1253  OH2 WAT W 234   -12.406 -27.193  54.213  1.00 58.17   W
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ATOM   1254  OH2 WAT W 235   -12.591 -26.874  57.492  1.00 59.02   W
ATOM   1255  OH2 WAT W 236    -9.972 -27.101  55.248  1.00 64.22   W
ATOM   1256  OH2 WAT W 237   -10.986 -26.023  59.916  1.00 85.99   W
ATOM   1257  OH2 WAT W 238    -8.633 -24.722  60.499  1.00 65.65   W
ATOM   1258  OH2 WAT W 239    -7.408 -29.767  62.831  1.00104.46   W
ATOM   1259  OH2 WAT W 240   -10.853 -30.151  64.764  1.00 64.63   W
ATOM   1260  OH2 WAT W 241    -5.798 -30.088  64.947  1.00 59.64   W
ATOM   1261  OH2 WAT W 242   -10.749 -26.762  64.393  1.00 42.38   W
ATOM   1262  OH2 WAT W 243    -4.473 -23.155  64.989  1.00 62.66   W
ATOM   1263  OH2 WAT W 244    -7.538 -16.683  61.868  1.00 50.16   W
ATOM   1264  OH2 WAT W 245   -10.230 -12.385  64.294  1.00 56.02   W
ATOM   1265  OH2 WAT W 246   -12.542  -9.996  64.001  1.00 54.97   W
ATOM   1266  OH2 WAT W 247    -3.345 -14.402  69.343  1.00 57.93   W
ATOM   1267  OH2 WAT W 249    -3.709 -26.479  62.036  1.00 92.57   W
ATOM   1268  OH2 WAT W 250    -0.479 -31.295  63.228  1.00 47.82   W
ATOM   1269  OH2 WAT W 251    -3.132 -28.329  67.027  1.00 81.69   W
ATOM   1270  OH2 WAT W 252     1.056 -29.536  66.527  1.00 61.35   W
ATOM   1271  OH2 WAT W 253    -1.744 -29.498  70.046  1.00 87.09   W
ATOM   1272  OH2 WAT W 254    -3.689 -29.331  72.794  1.00 58.75   W
ATOM   1273  OH2 WAT W 255    -1.410 -27.800  75.675  1.00 97.58   W
ATOM   1274  OH2 WAT W 256    -5.043 -29.537  76.343  1.00 64.90   W
ATOM   1275  OH2 WAT W 257    -4.475 -32.406  78.585  1.00 63.31   W
ATOM   1276  OH2 WAT W 258    -9.056 -33.080  76.962  1.00 69.69   W
ATOM   1277  OH2 WAT W 259    -4.003 -31.163  82.151  1.00 71.55   W
ATOM   1278  OH2 WAT W 260    -5.860 -21.668  72.801  1.00 74.39   W
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ATOM   1279  OH2 WAT W 261   -2.868  -8.958  39.980  1.00 74.69   W
ATOM   1280  OH2 WAT W 262   -4.140 -12.006  44.306  1.00 62.67   W
ATOM   1281  OH2 WAT W 263   -3.803  -8.642  42.852  1.00 66.75   W
ATOM   1282  OH2 WAT W 264    1.805 -10.509  35.249  1.00 59.42   W
ATOM   1283  OH2 WAT W 265   -4.539 -24.842  50.726  1.00 36.51   W
ATOM   1284  OH2 WAT W 266  -19.503  -1.261  38.826  1.00 69.86   W
ATOM   1285  OH2 WAT W 267   12.469 -22.407  27.693  1.00 85.12   W
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